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# JOURNAL

OF THE

## Royal United Service Institution.

WHITEHALL, S.W.

PUBLISHED UNDER THE AUTHORITY OF THE COUNCIL.

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VOL. L.

JANUARY TO JUNE, 1906.

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LONDON:

J. J. KELIHER & CO., LIMITED, 33, KING WILLIAM STREET, E.C.,  
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1906

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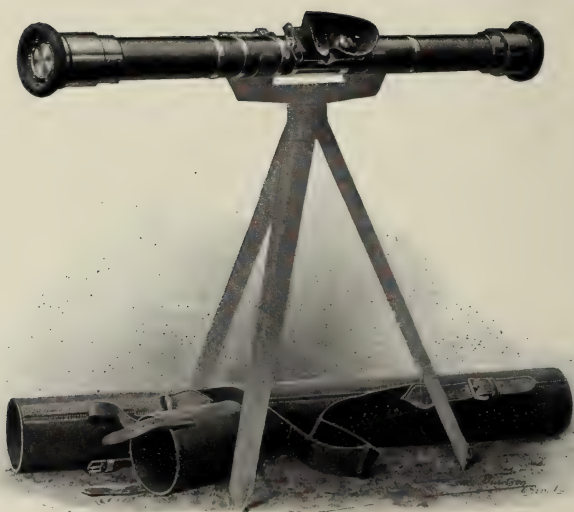
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(1) Fourth Foot.

(2) Third Foot or  
Holland Regiment,  
5th Company.

(3) First Foot Guards,  
1st Battalion Co.

(4) First Foot, Lieut.  
Colonel's Co.

(5) First Foot Guards, The King's Own Co.

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# THE JOURNAL

OF THE

## ROYAL UNITED SERVICE INSTITUTION.

VOL. L.

JANUARY, 1906.

No. 335.

*[Authors alone are responsible for the contents of their respective Papers.]*

### SECRETARY'S NOTES.

1. The following officers joined the Institution during the month of December :—

Major E. Leigh, Hampshire Regiment.  
 Lieutenant A. C. Dewar, R.N. (Gold Medallist R.U.S.I.)  
 Captain H. H. G. Hyslop, Argyll and Sutherland Highlanders.  
 Lieutenant J. E. Turner, R.E.  
 Captain W. T. Gaisford, Seaforth Highlanders.  
 Captain J. H. Hall, Middlesex Regiment.  
 Captain F. Lewis, Leicestershire Regiment.  
 Sub-Lieutenant G. W. S. Seton, R.N.  
 Captain G. N. Wyatt, R.F.A.  
 Lieut.-Colonel H. G. H. Kennard, 5th Dragoon Guards.  
 Captain H. Rowan-Robinson, R.G.A.  
 Second Lieutenant J. M. Prower, Hampshire Regiment.  
 Lieutenant W. E. Nicol, Grenadier Guards.  
 Captain T. E. L. Hill Whitson, 14th Hussars.  
 Lieutenant G. M. Ellison, Lincolnshire Regiment.  
 Lieut.-Colonel Hon. R. C. G. Carington, C.V.O., D.S.O., 6th Australian Light Horse.  
 Captain E. C. Scott, 4th Battalion Durham Light Infantry.  
 Second Lieutenant E. F. E. Seymour, Royal Dublin Fusiliers.  
 Captain O. H. Lawson, Indian Army.  
 Captain E. de H. Smith, R.A.  
 Captain P. S. Allan, Gordon Highlanders.  
 A general officer also joined, but wished his name kept out of this list.

(No officer of the Royal Naval Reserve, Imperial Yeomanry, or Volunteers joined the Institution last month.)

2. The following vacancies occur on the Council, to be filled at the anniversary meeting on Tuesday, 6th March, at 4 p.m. :—

1 Naval, 3 Regular Army, 1 Militia, 1 Imperial Yeomanry, 1 Royal Naval Reserve, 2 Volunteers.

3. Officers, when corresponding with the Staff, are requested to write their signatures clearly, or to print them as is done in official correspondence in India, as it is impossible in many cases to decipher them. Several letters have also been received unsigned.

4. The following additions have been made to the Museum :—

Orders of Lieut.-General Sir John Moore, K.B. :—

- Gold Collar and Badge of the Most Honourable Order of the Bath (K.B.), conferred on 14th November, 1804.
- Star of the Most Honourable Order of the Bath (K.B.).
- Diamond Star, representing that of the Order of the Bath, purchased by Sir John Moore's officers for 350 guineas and presented to him in 1804.
- Riband of the Most Honourable Order of the Bath (K.B.), worn by Sir John Moore.

*Lent by Miss Carrick Moore (his grand-niece).*

Sir John Moore was born in Glasgow on 13th November, 1761, the son of John Moore, M.D. Admiral Sir Graham Moore and James Carrick Moore, Surgeon of the 2nd Life Guards, were his younger brothers. He was educated at Glasgow and Geneva, and entered the Army in 1776, at the age of 15, as an Ensign in the 51st Foot, but subsequently transferred to the 82nd Regiment, with which he served in America. Having rejoined the 51st, he served with distinction in the

Corsican campaign, and later in the West Indies, during the Irish Rebellion in 1798, and under Sir Ralph Abercromby in Holland and Egypt. In September, 1808, he became Commander-in-Chief of the troops in Spain. While proceeding from Portugal to the relief of Madrid his retreat was cut off, and he was forced to retire under great difficulties upon Coruña. During an attack made by the French during the embarkation of the troops, which was successfully repulsed, Moore received a fatal wound, and was buried at Coruña.

*e.* General Officer's Gold Medal for the Battle of Coruña, awarded to Lieut.-General Sir John Moore, K.B. (*post mortem*).

*Lent by Miss Carrick Moore.*

The medal bears on the obverse, Britannia, wearing a helmet and seated on the globe, her right hand extended holding a wreath of laurel; in her left is a palm branch. To her right is the lion of England; and on the left a round shield charged with the crosses of the Union banner. The reverse bears a wreath of laurel surrounding "Coruña" and the date of the battle. On the rim is engraved:—"Lieutenant-General Sir John Moore, K.B."

The battle of Coruña was fought on the 16th January, 1809, between 14,000 British, under Sir John Moore, and 20,000 French, under Soult, who was endeavouring to prevent the British from embarking. The French attacks were uniformly repulsed, and the troops safely embarked, with a loss of about 800, including Sir John Moore. The French lost about 2,000.

Orders of Admiral Sir Graham Moore, G.C.B., G.C.M.G. :—

*f.* Star of the Most Honourable Order of the Bath (K.C.B.), conferred on 2nd January, 1815.

*g.* Badge of the Most Honourable Order of the Bath (K.C.B.), conferred on 2nd January, 1815.

*h.* Star of the Most Honourable Order of the Bath (G.C.B.), conferred on 11th March, 1836.

*i.* Star of the Most Distinguished Order of Saint Michael and Saint George (G.C.M.G.), conferred on 28th September, 1820.

*j.* Riband of the Most Distinguished Order of Saint Michael and Saint George (G.C.M.G.)

*k.* Collar of the Most Distinguished Order of Saint Michael and Saint George (G.C.M.G.).

*Lent by Miss Carrick Moore (his grand-niece).*

Admiral Sir Graham Moore, younger brother of Lieut.-General Sir John Moore, was born in 1764, and entered the Navy in 1777. He served under Lord Howe in 1782 at the relief of Gibraltar. In 1798 he was attached to the squadron on the coast of Ireland, under Sir John Borlase Warren, and assisted in the defeat of the French squadron on 12th October. In September, 1804, when in command of four frigates, he captured four Spanish frigates off Cadiz, laden with treasure of the value of three and a half million dollars. In 1807, after hoisting a broad pennant and escorting the Royal Family of Portugal to the Brazils, he was invested with the Order of the Tower and Sword. In the autumn of 1809 Moore served under Sir Richard Strachan in the Walcheren Expedition. He was promoted Rear-Admiral on 12th August, 1812, and for a short time commanded in the Baltic. In 1820 he was Commander-in-Chief in the Mediterranean. He was promoted Admiral in 1837, and after holding the appointment of Commander-in-Chief at Plymouth, died at Cobham in 1843.

*l.* Small metal case containing tools for the Chassepot rifle, picked up on the battle-field of Sedan, 1870. Given by Captain Charles Slack.

5. The attention of members is called to the necessity of, when returning books to the Library, enclosing their card with them, as, owing to there frequently being many copies of the same work issued to members, it is otherwise impossible to tell from whom they come, and grave difficulties and inconvenience consequently arise.

6. The attention of members is also called to the necessity for communicating any change of address or of rank to the Secretary. It is also essential that such changes should be made in writing. If such changes are not notified, members will themselves be responsible if their JOURNALS fail to reach them through being wrongly addressed.



# THOUGHTS ON THE ORGANISATION OF THE BRITISH ARMY.

*By General Sir RICHARD HARRISON,<sup>1</sup> G.C.B., C.M.G.,  
Colonel Commandant Royal Engineers.*

---

Thursday, 19th October, 1905.

The PARLIAMENTARY UNDER-SECRETARY OF STATE FOR WAR  
(the Earl of DONOUGHMORE) in the Chair.

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## *Introduction.*

MOST people think that our Army methods are open to improvement; but, when the question arises how best to effect a change, the differences of opinion that arise on every side are somewhat bewildering.

Some years' consideration of the subject leads me to the conclusion that these differences are chiefly caused by the various aspects from which the problem is approached. To judge of it properly, a comprehensive view must be taken. And so in the following lecture I intend to formulate a complete scheme—maybe a skeleton, but one in which no bone will be left out.

I will treat the subject under the following heads:—

1. How to get men;
2. How best to equip them;
3. How to organise them in units;
4. How to distribute them in time of peace;
5. How to train them;
6. And how to mobilise, or, in other words, put them in a condition to take the field in time of war.

---

<sup>1</sup> Written originally, by request, as an article for the *War Office Journal*, in the autumn of 1904.

*How to Get Men.*

Speaking generally, there are only two ways, viz., some form of conscription, or voluntary enlistment.

Much has been written and much said on this subject. There are advantages and disadvantages in both systems; but it may be taken for granted that, as long as there are any good advocates for the system with which they are familiar, the voters of this country will not change it for the one adopted abroad. So I shall only take up the subject of voluntary enlistment, and consider how it can be worked with the best chance of success.

Assuming that we retain the Regulars, the Militia, the Yeomanry and the Volunteers, we must so treat them that each shall tap certain classes of the population, and that they don't clash one with another.

The Regular Service takes the young men who want to see something of the world, or are tired of their own homes, or of the immediate prospect presented to them in their own town or village. They are not prepared to devote their whole life to the Army, at all events until they have had a trial of it. But they require a wage above what they can earn in civil life. Then, too, it will be an additional inducement to them to join the ranks if there is a prospect of increased pay for increased proficiency, and a good chance of getting employment when they return to civil life.

The Militia Service takes men who have started in some occupation, but can arrange to get away for certain periods of the year. As a rule they like the change; and, as long as service does not destroy their means of livelihood, and does not interfere with their power to marry if they so wish, they will join, in limited numbers, for an amount of pay that will meet their expenses. More would join if the pay were increased, and if their military employment were more considerably worked than it is now; that is to say, if their training were carried out at times when they could be spared from their permanent civil work. In this connection it may be remarked that by taking men for recruit training when they can best be spared—usually in the winter—not only could more good men be got for this branch of the Army, but the labour market would be helped all round. Employers would benefit as well as those employed, and the whole country would gain.

The Volunteer and the Yeomanry Services take men who would not otherwise join the Army voluntarily. If certain conditions of physique and knowledge were laid down for their recruits, and if their training was more carefully arranged than is the case at present, they might easily be made the finest Force in the world. Nearly all of them are employed, and consequently they can only come out for training in the evenings, or when they can get a holiday. If they are to be kept up in an efficient condition, it is absolutely necessary that all the officers should pass a special examination for each rank, and that officers and men should receive sufficient pay to cover their expenses.

Now the Regulars are required to guard our over-sea possessions—notably India—and the coaling stations of our Fleet; while the Militia, the Yeomanry, and the Volunteers are required primarily for Home Defence, but also to support the Regulars should the Empire ever be in danger. The numbers that might be required in time of war can only be assumed; but an assumption of this sort is necessary



before anyone can work out properly what force must be maintained in peace, in the ranks, and in the Reserve, and how that peace force can be transformed into a war one.

I will deal later on with this part of the subject under the headings Distribution and Mobilisation. Meantime, let us consider what should be the conditions of service for each one of the branches into which the British Army is divided; that is to say, what should the Government offer them, and what should they be expected to do in return. While on this subject, I wish to say that, *for their own sakes*, every officer and soldier should have a small parchment book which should contain the conditions of his service, and also a record made up from time to time how that service has been performed. This should be compared occasionally with a duplicate kept at the *depôt* at home.

The conditions for recruits for the Regular Army should, I think, be as follows:—Enlistment between the ages of 18 and 20 for a period of eight years with the colours and four years in the Reserve, but with powers of purchase at two and four years. The pay should be sufficient to induce these young men to enlist, and there should be an increase of 2d. a day with a badge after one year, and again after two years, and again after four years, making 6d. and three badges in all. The recruits' training (which will be described later on) should be carried out usually at special *depôts*.

The normal period for a recruit's course at a *depôt* should be two years, which is necessary if he enlists at 18 and is joining a battalion in India, because he is not allowed to serve in that country until he is 20.

Enlistment should only be allowed when applicants pass a certain physical and mental test, and produce a certificate of birth and one of education. The latter will eventually include the physical course which every boy will have to go through in an elementary school. The increase of pay and the badge should only be given for proved qualifications.

From the above it will be seen that I contemplate three classes of soldiers; viz.: the recruit (or 3rd class soldier), the trained soldier (2nd class), and the 1st class soldier.

The first badge should be given to the recruit, as an encouragement, after a year's satisfactory service, and on passing a theoretical and practical examination. The second badge should be given on passing the examination required by a 2nd class or trained soldier; and the third badge on passing as a 1st class soldier. What they would be required to know in each class will be dealt with under the head of Training.

Service abroad should not, as a rule, be longer than 5 years, with an interval of not less than 3 years at home.

Six months before the completion of his 8 years' service a man should be allowed to say if he wishes to continue in the ranks. If he is a good soldier, and if there are vacancies, he should be allowed to do so for a second period of 8 years, of which not more than 5 should be abroad. After this, he might have the option of being employed either in the Home Army, or in the General Service Army, until he obtains a pension. This, I think, should be for 6 years in the latter, making 22 in all, or for 12 years in the former, making 28 in all. Should he not wish to continue in the ranks after 8 years he would complete his 12 years in the Reserve.

Officers for the Regulars should all, I think, be obtained from Military Colleges, or from Universities.

The conditions for recruits for the Militia should be enlistment between the ages of 19 and 24, for a period of 3 years in the ranks and 5 years in a First Reserve. An option might be given to serve on for four years more in a Second Reserve.

The Militia should be strictly localised, as they are now, and their Infantry should take charge of the county depôts. At each depôt, besides the work incidental to enlistment, and records, and storing military equipment, there should be a thoroughly up to date military school for recruits, which I will describe more at length later on. Here the Militia recruits should be trained for a period of four to six months during the winter; and in the summer of the second year they should join their battalion in a camp of exercise. The battalion should be out every year for from 4 to 6 weeks, made up of second and third year recruits and of the permanent staff.

Militia Reserves, whether of the first or second quota, should come out once in three years and train with their battalions.

Officers for the Militia should go through the same training as recruits for two years, and then be subject to an examination, after which they might be posted as second lieutenants. All subsequent promotion should be subject to practical and theoretical examinations. Schools for Militia, Yeomanry, and Volunteer officers, and non-commissioned officers, should be provided at our principal military stations to assist them in passing the required tests.

Under certain conditions officers of Regulars should be allowed to join the Militia, and qualify for a pension.

The conditions for Yeomanry might, I think, be left as they are. They have been very much improved since the South African War.

The conditions for Volunteers require careful consideration. We need not go into their past history. We know how the movement started, and to what dimensions it has grown, and we have a vivid recollection what it did for us in the early days of the Boer War. Surely we ought to do our best to preserve an organisation that has restored to our country the popularity of the military profession, that has done so much to keep up military enthusiasm, that has been ready to take a foremost place in the defence of the Empire, and has in the hour of need provided *personnel* for the very forefront of the battle. How can we do so? I think as follows.

First by ascertaining our home needs, which can be done by making a scheme of defence for the British Isles. Then by calculating what number of efficient Volunteers of all arms are required, in addition to Militia and Yeomanry, to make that scheme complete; and, when we have done this, by grouping the various corps together in so-called battalions and brigades, taking care that their strength shall be equal to three times the numbers actually required by the scheme of defence. Besides this, every corps should maintain a service section ready to reinforce, in time of war, the Regular unit to which it is affiliated.

It is in the power of Army government to impose whatever conditions it chooses on recruits enlisting into the Volunteers, and to lay down what shall be their pay and what their allowances under various circumstances. But it is obvious that in proportion as it requires efficiency, it must be ready to meet all the legitimate costs of the Force, so that officers and men shall not be required to put



their hands into their pockets. It is enough if the Volunteers give their spare time and the best of their energy to military work—they should not be asked to give their savings too.

It may be remarked that I have fixed 18 to 20 as the age for enlistment into the Regulars, because this is the period when the boy is becoming a man, when he expects the boy's wage to be increased, and when he is more or less doubtful what profession he will take up; and I have fixed 19 to 24 as the age for enlistment into the Militia so that it may not interfere with enlistment into the Regulars. The Militiaman, as I have already stated, can have civil employment concurrently with his military training.

I have not proposed any changes in the terms of enlistment for Yeomanry and Volunteers because they don't conflict with Regulars.

### *Personal Equipment.*

Having stated briefly how I think it may be possible under a voluntary system to obtain men for the British Army, I turn to the next question, how best to equip them.

Army authorities in England have arrived at the conclusion that a soldier of the Empire requires two distinct dresses, a show dress and a working dress. The show dress is, as a rule, of the traditional scarlet colour, and the pattern follows the fashion of the day. The service dress is intended for use all over the world. It is of the khaki or mud colour, that has, in one shade or another, been used by our soldiers in all the wars we have undertaken since the Indian Mutiny.

I am not going to involve this lecture in questions of dress pattern; nor will I deal with the show dress except to remark, in passing, that it must not be treated as a matter of no importance, because it is a strong factor in the recruiting question. But I will pass at once to the soldier's war kit, assuming that the service dress is of the present approved pattern.

The articles in possession of a soldier in time of war can be divided into three categories, viz.:

*1st*, Those that should accompany him on the march, being carried either on his own or his horse's back, or in transport which is always close at hand;—

*2nd*, Those that can be left at an advanced dépôt or on the line of communications, to be drawn on from time to time as required;—

*3rd*, Those that can be left at a permanent base, to be sent for when troops go into standing camps or cantonments.

In regard to the first, the more a man, or horse, carries on his back, the less there will be to be brought along by transport. But the man must not be so overburdened that he cannot march with ease, and so a mean must be struck. But it must never be forgotten that, given sufficient strength to last through an ordinary campaign, and given adaptability to the purpose for which it is provided, every article of a soldier's equipment should be as light as possible (See Appendix I.)

I know that many officers in the war in South Africa, and also in previous ones, experienced great difficulties in campaigning because of the unsuitability of various articles of our dress and equipment for war purposes, and had to resort to all sorts of expedients to lighten the loads on men and horses.



And I know that, for many years, committees of practical officers have investigated and reported on the subject.

Certainly here and there improvements have been made, such as lightening the saddle, as recommended by Sir Frederick Fitz Wygram, or improving the general service wagon, as advised by Sir Redvers Buller. But there is still much to do.

Before going into details, I must observe that a soldier ought to be so familiar with every article of his war kit, that it should be like a part of himself. Now the only way to effect this is to familiarise him with their use, and let him constantly carry them in time of peace. The old system of "marching order" for Guards had a very real meaning. It was intended to secure that everything essential to a soldier's efficiency was existent and in good order, and that the carrying arrangements fitted properly, so that men might march out of any guard room straight on to the field of battle.

And now a few words in regard to details of personal equipment. I will not touch on mounted troops, because the question in their case has been more carefully gone into by experts than has been done for dismounted ones; and a committee composed of any good cavalry, artillery, or Army Service Corps officers, who have served in recent wars, could soon settle any questions that may still be pending.

Take an infantry soldier as representing the dismounted men of our Army. What is his marching order kit? that is to say, what are the articles that he must take with him when he goes to fight? and how does he carry them?

First there are the clothes he wears, which should consist of a suit of khaki, a helmet, a flannel shirt, a pair of drawers, a pair of socks, boots, etc. Next there are his arms and ammunition, and lastly there are the few indispensable articles that he requires at hand to keep him in health and strength during a campaign, assuming that he may frequently be separated from the baggage train, and have to depend on his own resources.

The infantry soldier's arms consist of a rifle, which he carries in his hand, and a bayonet, which is fastened to his waist-belt.

A rifle is no good without ammunition, and, notwithstanding the most careful arrangements for the supply of rounds from transport accompanying the troops, and trains following behind, a considerable amount has to be carried by the man himself.

Besides ammunition, a small quantity of food has also to be carried by the soldier; usually a water-bottle with tea in it, a reserve ration, and at least enough bread and meat to last him through the day, until the ordinary ration is issued at the end of the march or the battle. Meat and groceries are usually carried in the canteen, and bread or biscuit in the haversack. The other indispensable articles are an overcoat,<sup>1</sup> a holdall, a towel, two foot bandages, a wound bandage, a pocket ledger, a clasp knife, a woollen nightcap, and a pot of grease. Besides these, there are the necessary belts and pouches, called accoutrements, to enable the whole kit to be easily borne.

In addition to what is carried by the soldier, the baggage train, which accompanies the troops, should have in it a small valise for each man, with a carefully selected change of clothes, and also spare ammu-

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<sup>1</sup> See Appendix II.

nition, one or two days' rations, intrenching tools, and tents or blankets if specially ordered.

The most important articles in a soldier's kit, next to his arms, are, I think, his accoutrements, because on their efficiency for the purpose for which they are intended depend in a great measure the man's comfort, and his power to march, and endure privations. For some years an excellent committee, under General Eyre, worked at these accoutrements, and produced what used to be known as the Valise Equipment. This is out of date now, because it contemplated carrying a number of articles which have been obliged to be thrust aside in favour of ammunition. But the principles which guided the committee in adopting this equipment—principles which were unfortunately overlooked by those who invented most of the equipments of a later date—remain good to the present day. They consisted mainly in so distributing the load, that it should be thrown on the centre of gravity of the soldier when marching. This was done by a combination of yoke and brace, so arranged that the weights, more or less evenly distributed before and behind, were carried on the shoulders, and no tight strap was required anywhere to keep them in position.

Whatever means of carriage may be adopted in the future, that is to say, whether the articles that have to be carried by the soldier are placed on a bandolier or suspended by braces, the principles alluded to above should be borne in mind.

I will not go into further detail. It is sufficient for my present purpose if I have shown that the really essential matter in fitting out a soldier is to provide him with an equipment suitable for war; and that the accoutrements given to him to enable him to carry such articles as are necessary should be carefully and scientifically made; and lastly that, in order to get thoroughly at home with his war kit, he should always have it in his possession, and carry it in all marching drills and manœuvres.

### *Organisation in Units.*

Having enlisted a certain number of men, and provided them with the necessary equipment to enable them to do duty as soldiers, the next process is to group them together in bodies such as troops and companies.

The business of the construction of these bodies, and then of putting them together so that the various "arms" may be properly proportioned, is called Organisation.

It will not, I think, be denied that organisation should follow tactics. In other words, that the units which make up an army should be so organised as to facilitate to the utmost extent possible the employment of modern tactics.

The object of all tactics is to get the greatest advantage out of the arms in use, which, in these days, are chiefly the long-range rapidly worked fire-arm, backed up by the bayonet in the hands of infantry and the sword or lance in the hands of cavalry.

The practical result of modern tactics is, that troops can defend a position with fewer men in the front line than formerly. This means a greater extension of the line of battle, the necessity of more careful preparation for attack, longer and more elaborate flank movements, and the frequent employment of night fighting.



To facilitate the employment of these tactical changes, which have been going on ever since the adoption of the breechloader and quickfirer, but never so fast as in the last few years, I don't know that we have made any material changes in our organisation.

I would ask, does our existing organisation admit of sufficient decentralisation when local circumstances require it? Does it provide for all the wants of the men in a long-drawn-out modern battle? I don't think it does; and, if I am right, surely every endeavour should be made in time of peace to carry out any required improvement.

It is frequently stated by theorists that individual responsibility is required to enable modern tactics to be used with effect. This is all very well, but it is only practicable if every individual soldier put into the field can be fully trained in the art of war; and it is doubtful if this can be done by any nation even at the commencement of a campaign, still less when the ravages of war take effect, and the ranks have to be filled up by more or less untrained reinforcements.

I can't help thinking that, while endeavouring to train every man as fully as possible, we should at the same time so organise our forces as to be ready to meet all circumstances. So I propose to make the basis of our organisation the group of seven, that is to say, a leader and three double sentries. The leader should have all the training of a scout, and should be a junior non-commissioned officer or, at all events, a first-class soldier.

Taking first the infantry; four groups under a sergeant would make a section of 29, and four sections besides 1 captain, 1 lieutenant, and 2 soldier servants would make a company of 120.

Two of these companies should form a double-company under a major, who should be mounted. This would be the unit for training in peace, and also for fighting in war.

Four double-companies, together with a headquarter detachment, would form a battalion, and four battalions would form a brigade.

Under this organisation every officer and non-commissioned officer would have in the field a distinct responsibility. The brigadier, having received the instructions of the divisional general in regard to the situation, would make all the arrangements for the supply of his command, and would dispose of his four battalions for attack or defence according to circumstances. Similarly, the lieutenant-colonel of a battalion would deal with his headquarter detachment and his four double-companies—the fighting units.

The actual fighting of infantry would be under the major, who, having received the instructions of the lieutenant-colonel, and made himself acquainted as far as possible with the situation, would dispose of his command to the best advantage. His success or failure would then depend in a great measure on the training that he had given his officers and men in time of peace.

The organisation of cavalry would be similar to that of infantry. Four squadrons, under majors, would form a regiment, and three regiments would form a brigade.

In artillery, three batteries of field artillery or two batteries of horse artillery would form a brigade division. A battery is commanded by a major and a brigade division by a lieutenant-colonel.

In engineers, a field company, under a major, is the present unit to accompany infantry. But the experience of the South African War seems to indicate that it is too small for the work it has to do, and



that a proportion of the men should be mounted. Its organisation, however, can best be considered in connection with the division.

The division is the unit that combines all arms, and is thus capable of carrying out, alone, or in company with others, all the phases of a modern battle.

As at present constituted, a British infantry division consists of

2 infantry brigades (8 battalions);

A squadron of cavalry ( $\frac{1}{4}$  regiment);

2 brigade divisions of artillery (6 batteries);

A field company of engineers.

The total (approximately) of bayonets is 8,000.

A British army corps consists of 3 infantry divisions and certain corps troops, not included in divisions, such as more artillery; pontoon, telegraph, and balloon units of engineers; ammunition and tool parks; army signallers; bakery columns; extra medical units; an extra battalion of infantry; and a squadron of cavalry, etc.

Now there is no absolute need to have either division or army corps organised as above. Many think that, for the requirements of Great Britain, which are a large Navy and a small Army, the division should be somewhat larger and more complete, and the army corps should be simply an aggregation of divisions;—say three infantry divisions and a cavalry division, with line of communication troops according to the estimated length of country to be held behind the moving army.

But, apart from this, it seems to me that the division is not at present organised to make the fullest possible use of modern tactics.

I alluded above to the changes caused in tactics by the far-reaching, rapidly-working fire-arm of modern days; and stated how, while the line of battle is extended, there is, at the same time, more need than ever of flanking movements. Now the best way, if not the only one of carrying out such movements is to have a portion of the infantry with every division mounted.

Again, I have pointed out that more careful preparation than ever is required previous to an attack; and one of the ways to carry out such preparation is to make a reconnaissance with mounted men, and to furnish a report on the ground to be passed over by the attacking forces, as well as on the general dispositions of the enemy for defence. This reconnaissance and report must be made by men who are intimately associated with and working alongside of the attacking infantry. It could, I think, be best done by mounted scouts belonging to the battalions.

Lastly, I said that night fighting in modern war is as essential as ever. Now this branch of the military art requires frequent practice beforehand, and most careful arrangement previous to execution; and I believe it might be made more reliable by associating with the troops detailed to carry it out, a force of engineers. If this were the custom, these latter soldiers would make a *spécialité* of the business, and would bring into play their scientific instruments, such as telegraph lines to keep up communication, guide posts and illuminated paint at certain points on the line of approach, and searchlights where considered useful to disclose what the enemy was doing or to bewilder them with their glare.

So I propose that every double-company of infantry shall have, as part of its organisation, 4 scouts; and that there shall also be 4 in

the headquarter detachment, one of which would be the sergeant in command. This would make 20 scouts in a battalion. They would be trained in time of peace, but mounted only on mobilisation for war.

I propose also that, besides the 2 infantry brigades now detailed to a division of infantry, there should be a third brigade of two or three battalions of mounted infantry. The cavalry squadron could then be dispensed with. The mounted infantry assigned to this work need only have a few horses in peace time, sufficient for training purposes. They would, of course, be fully horsed on mobilisation for war.

And finally I propose that the engineer organisation for an infantry division should be a battalion of four companies. The lieutenant-colonel commanding the battalion should be the commanding Royal Engineer of the division. The companies would be commanded by majors. A proportion of each company should be mounted, so that they might get rapidly from one place to another, to carry out any special work. Pontoons to a limited extent, and telegraphs, and electric lights, and balloons should be provided with the battalion. Reserves of these and of intrenching tools and other special engineer tools should be carried in field parks on the lines of communication; and the units now detailed to army corps might be done away with. Arrangements should be made to attach a corps of local labourers to the engineer battalion, to assist in heavy field works or in the construction of roads, etc.

A division of infantry would then be formed as follows:—

- 2 infantry brigades;
- 1 brigade of mounted infantry;
- 2 brigade divisions of field artillery;
- 1 battalion of field engineers;
- Ammunition columns, transport and supply, and medical columns as required.

A division of cavalry would consist of:—

- 2 brigades (6 regiments) of cavalry;
- 2 brigade divisions (4 batteries) of horse artillery;
- A mounted company of engineers;
- Ammunition columns, transport and supply, and medical columns as required.

An army corps would consist of (as before stated) 2 or 3 infantry divisions and a cavalry division, and of line of communication troops (with the latter there would be batteries of position, for use as required).

It is thought that in working out the above in detail, considerable saving in transport might be effected by cutting out everything not actually required at the front. All *surplus* men and horses should be kept at depôts at or near the base, and all reserve stores in field parks on the lines of communication.

#### *Distribution in Time of Peace.*

Troops are required to be maintained by Great Britain in time of peace for the following purposes:—

- a. In concert with a local native army to protect India.
- b. In concert with such local troops as can be found at each place to garrison the coaling and repairing stations of our Fleet.

- c. To form, with or without the Reserves, a field force that can be held available for rapidly conducted expeditions in concert with the Navy.
- d. To defend Great Britain, and at the same time be prepared to support the above-mentioned (c) field force in any prolonged operations.

To do this we have now, and I think we should be content to have, if they are sufficiently well organised and trained, the Regulars, the Militia, the Yeomanry, and the Volunteers.

The Regulars supply the white troops of all arms that are required for the protection of India, in addition to the native army. A portion of that supply, that is to say, a fixed number of battalions of infantry, regiments of cavalry, and batteries of artillery, made up of trained soldiers of at least two years' service, are distributed throughout that country under the orders of its Government; and a portion, chiefly recruits under instruction, are retained in England for the purpose of furnishing drafts, or sending out reinforcements. The Regulars also supply the white troops required to garrison, in addition to the local forces, the naval coaling and repairing stations abroad, in the same way as in India, except that the men sent out need not be 20 years of age.

They also form the nucleus of a force held available in the British Isles for use, at short notice, in any part of the world where Imperial interests require their presence; at present some of them are in Egypt and some in South Africa.

The Militia, Yeomanry, and Volunteers should form the Home Defence Army. They are also available, under an organisation which I will explain, under the heading of mobilisation, to strengthen and support the Regular Army in any prolonged operations abroad.

In planning the distribution of troops in a country, two points should be considered: first, what will best facilitate their training, and secondly, how will the arrangement answer in time of war. There is another element that comes in when the matter is taken in hand practically: viz., where are the existing barracks? and how far will their situation enable a proper scheme to be elaborated?

Modern training requires rifle ranges, and open commons in the neighbourhood of barracks, and these are not easy to obtain in the close vicinity of towns where many of the old buildings are located.

Again, the requirements of training must be considered under two aspects. There is the training of the recruit, which has to be carried out continuously all the year round, and can be done to a great extent on barrack squares and in gymnasia, and with miniature ranges; and there is the training of the soldier for the field, which requires open spaces and full sized ranges.

The only way in which the question of distribution can be properly considered in Great Britain is to go into it in some detail. But if the matter is to be settled with any finality it is absolutely necessary that principles should be laid down for the guidance of those who have to carry it out.

I will assume certain conditions for the troops that have to be quartered in Great Britain in peace and war, and base my proposals on them. Any change in the conditions will entail a corresponding change in the proposals.



I take it, 1, That a field force of Regular troops sufficient to form at least 6 complete divisions of infantry and 2 of cavalry, with a proper proportion of heavy artillery, and engineers, and line of communication troops for, say, 100 miles of communications, with all the necessary trains, should be kept in constant training for war, so that they could be shipped abroad at any time within a fortnight of an order to move.

2. That a similar field force of Militia, Yeomanry, and Volunteers, should be so organised that they could be rapidly assembled at any time to take the place of the Regulars sent abroad.

3. That the garrisons for all fortified naval bases and coaling and fitting stations at home, and of such commercial harbours as it is considered advisable to fortify, should be carefully arranged, and so organised that they could take up the positions assigned to them in the local schemes of defence at 12 hours' notice.

4. That there should be an organised system of supports to the Naval Coast Guardsmen who keep watch all round our coasts.

5. And that there should be a sufficient balance of all arms to supply drafts for India, and the Colonies, and to send reinforcements wherever likely to be needed; and also to act as a general Imperial Reserve to all forces that may be engaged in war.

How should all these Forces be distributed, and how should they be housed?

Speaking generally, the Regulars are at present put up in existing barracks; the Militia, when embodied, in tents or huts; the Yeomanry in tents or billets; and the Volunteers in tents.

I must say a few words here on the subject of our barracks. The barracks in the United Kingdom, and also abroad, have been built from time to time to suit the military policy of the day. Sometimes they have been located with a view to defence, and, moreover, they have been constructed to meet the requirements of a force that was specially organised for the occasion; sometimes political considerations have settled their whereabouts; sometimes they have formed part of a fortress, and in this case the rooms were made bomb-proof to stand a siege; sometimes they have been built as plainly as possible, to save expense; at other times, architectural effects have been attempted to please local authorities. Ever since they were first inaugurated in England, the changes in occupation and the consequent changes in construction have been incessant; cavalry barracks have had to be converted into infantry depôts, and the stables altered to make indifferent barrack rooms; infantry barracks have had to be used for artillery; artillery barracks for infantry. The numbers to be accommodated have varied still more frequently. Besides all this, modern sanitation, and ideas of comfort, have never ceased in their efforts to bring about improvements, the result varying with the funds placed at disposal for the purpose. Unfortunately, a barrack is not like a carpet bag, which can expand or contract according to what it has to hold. No wonder that military barracks are frequently criticised, and sometimes roundly abused! Of late years, a determined attempt has been made to adopt a barrack policy, which could say what barracks should be done away with, and what should remain. Naturally, this policy is dependent, to a great extent, on how the troops are distributed. I say "to a great extent," for it is not so entirely. Given a good barrack with sufficient exercising ground in the vicinity, and it doesn't very much matter whether the ordinary

routine training carried out in it is under one general or another, especially if the troops it holds can once a year be exercised with others in field-training or manœuvres.

Evidently, the matter can be worked out not only with a due regard to efficiency, but also with a view to economy.

There is no doubt whatever, that if the Scheme of Defence for the British Isles can once for all be settled, and the general distribution of the troops in peace and war be worked out in accordance with it, for the first time in our history the barrack question will be able to be really grappled with, and proper accommodation provided for all our soldiers.

Under the conditions that I have stated above, the Regular troops could, no doubt, all be provided with accommodation in existing barracks, the field force at our camps at Aldershot, Salisbury, and elsewhere, and the dépôts and other troops not included in the list for immediate embarkation at our fortresses, and other stations. When these troops are collected together for summer drills or manœuvres, they can be provided with tents or billets.

The auxiliary forces (*i.e.*, the Militia, the Yeomanry, and the Volunteers), when out for training in time of peace, can usually be encamped on one or other of the Government exercising grounds. Occasionally, they can be put up in barracks or huts when any are available. In time of war, these troops, when first called out, should occupy billets or hired buildings at their places of mobilisation. But when the first (Regular) field force has left the country, those of the Auxiliary Forces, which are detailed to take its place, can occupy the barracks. The garrisons of our naval bases, and the troops supporting the coast-guards, should, in time of war, be provided with accommodation arranged for in the local Schemes of Defence. The same, or tents, can be used for peace-training.

A few words seem necessary regarding the way in which Army Government has to be conducted under any distribution of troops at home. For purposes of recruiting, and of the general administration and training of all our Forces, Regular and Auxiliary, the British Isles are divided into military Districts. Scattered about in these Districts are our training grounds, such as Salisbury Plain and Aldershot, and our Military Schools, such as Hythe, Shoeburyness, and Okehampton. Distributed among them also are the various naval bases and repairing stations, such as Portsmouth, Plymouth, Cork, Pembroke Dock, etc. Now, the most economical arrangement for command, and the one best adapted for keeping generals and staff up to the mark would be to organise districts according to the work that has to be done in them. But in any distribution, the requirements of war must not be forgotten. I think that an arrangement, as follows, would best meet all circumstances:—

- |   |  |
|---|--|
| 1. The Eastern District,<br>as at present, under a Major-General. | } Grouped under an Inspecting General Officer quartered in London. |
| 2. The South-Eastern District,<br>do. do.                         |  |
| 3. The Home District, including<br>Woolwich do.                   |  |
| 4. The Thames District,<br>do. do.                                |  |

1. The Portsmouth District, as at present, under a Major-General.	}	Grouped under an Inspecting General Officer quartered at Aldershot.  N.B.—This officer would be the authority on field matters.
2. The Salisbury Plain District, do. do.		
3. The Aldershot District, do. do.		
1. The Plymouth District (Counties of Gloucester, Somerset, Devon and Cornwall) under a Major-General.	}	Grouped under an Inspecting General Officer quartered at Bristol.
2. South Wales, under a Brigadier.		
Scotland . . . . .	}	Under an Administrative and Inspecting G.O.C. at Edinburgh.
The N.E. District . . . .		do. do. at York.
The N.W. District . . . .		do. do. at Chester.
1. Belfast District, as at present under a Major-General.	}	Grouped under an Inspecting General Officer quartered at Dublin.
2. Dublin District, do. do.		
3. Cork District, do. do.		

Each district would be worked administratively by a major-general. In four cases they would be grouped together under an inspecting-general officer, whose duties would be inspection in its highest form, i.e., inspection with suggestions for improvement, not merely finding fault. All *new* proposals in districts, however, and everything entailing expenditure, not provided for in the Annual Estimates, would be referred to him. His staff need only be a small one; probably a military secretary, and two aides-de-camp, with two clerks would be sufficient.

### *Training.*

I have already said that young men enlisting voluntarily into any branch of the British Army should be subjected to certain tests before they are accepted. There is the physical test, which has always existed, and which certainly should not be lessened when physical drill is taught in all our elementary schools; and there should be a mental test, such as reading, writing, arithmetic, and the history of our country. But, whatever test may be established for entering the Army, the after-training should be considered under two aspects: the training of the "recruit," and the training of the "field-soldier." Whenever possible, the first should be completed before the second is begun. The first can be carried out in dépôts, and in buildings that can be provided in towns; the latter where exercising grounds and full-sized ranges are available within reach of the barracks. The importance of this distinction is great, for on it depends the whole system that we adopt for the training of our troops at Home.



It is in order to make sure that our training is continuous and progressive, as well as to assist recruiting, that I have proposed making three classes of soldiers, with different rates of pay, and qualifying badges. The 3rd class would consist of recruits; the 2nd of trained soldiers fit to do ordinary duties; and the 1st of superior soldiers, capable of carrying out the duties of scouts, or of commanding a group under all circumstances in the field. All non-commissioned officers should possess the qualifications required by a 1st class soldier.

I have given a year as the time when a recruit might pass his first examination, and win 2d. a day pay, and his first badge; and I have given two years as the time when he might pass a trained soldier's examination, and win his second badge, and another 2d. because, if he enlists at the usual age (18) he can't go to India for two years. But I would give power to relax the rule in the case of a specially quick young man, or one who enlisted at 19. In such special cases I would allow the first examination to take place in from 6 months to a year, and the second in from one year to two. Similarly I would allow the third examination for a 1st class soldier to be held in special cases between three years and four.

Classes similar to those provided for in the General Service Army should also be established for the Auxiliary Forces, but in their case longer periods of service would be necessary before examinations were held, and the pay to accompany a badge need not be so high.

As a rule, the whole of "recruit training" should be conducted in Military Schools established in dépôts or elsewhere. In case where a certain number of recruits had to be trained in regiments or battalions, they should be kept apart, and not be allowed to do ordinary duty until their course was complete.

Eventually, when the system of physical training is adopted as part of the ordinary instruction in elementary Schools in Great Britain, a boy would practically, without knowing it, commence then to learn discipline. This learning he would carry on, at the same time as boy's work, in a Boys' Brigade or the Cadet Corps of a public school; and, when eventually he elected to join one or other of the branches which form the British Army, he would find a recruit's course comparatively easy, and would soon be fit to pass the examination, and win the badges of a trained soldier.

I will not now go into the question of military schools. It is evident that they must be similar to other teaching institutions, and that those who teach must not only know what has got to be learnt, but be able to impart that knowledge to others. But I propose to say a few words in regard to training in battalions and other units, where the 2nd class soldier must be taught theoretically and practically all that is required to enable him to qualify for the 1st class, and where all hands have to keep up the knowledge they have acquired, and maintain themselves in a fit condition for a rapid war.

The question of training, which is really the life of the soldier in time of peace, is so all-important, not only as it affects recruiting, but in its power to produce an efficient Army, and also in its effect on the whole population of the country, that I must say rather more about it than I have said about the other subjects that I have been dealing with.

It must be evident to all who have studied the subject, that for a volunteer Army, the power to obtain recruits will be very much affected by the life that men live in barracks in time of peace. It

is but natural that a young man, thinking of enlisting, should ask those of his "chums," who have already served, what sort of life they lead at home and abroad; what work they do; what amusements they can count on; and what they gain in the way of facility for employment when they return to civil life. A country lad, failing to get a satisfactory answer to these questions, would either cast about again and see if he could not get any advance on the wages he was then receiving, or would migrate to London, or some other big city, with the view of finding out for himself whether the higher wages he could earn there were enough compensation for the country pleasures he would have to give up. But, whether he stays in the country or goes to the town, failure to get on as quickly as he had anticipated, or the love of adventure and the desire to see foreign lands, induce a good many Anglo-Saxon lads to take the shilling, especially when the terms of enlistment are short.

I will now consider briefly his life after he has joined. Of what does it consist? And can it, at the same time, be made sufficiently acceptable to recruits to enable us to fill our ranks? On a satisfactory solution of these questions depends the success or failure of the voluntary system.

But, before going into particulars, let me say a word or two in regard to "work" in the abstract. I have often been met by the argument that the recruit in the British Army objects to work, that his chief object in enlisting is to escape from it, and that if you give him more to do than he likes, he will desert, and prevent others from coming in. Granted that "how to work" is one of the things that you have to teach a recruit, the question seems to be: cannot you do so in an intelligent and methodical manner, so that the young man may appreciate what is being done? And cannot you, at the same time, provide him with sufficient amusement to make his life, on the whole, a pleasanter one than it has been hitherto?

Boys and girls of all temperaments are taught in our elementary schools; and I see no reason why men cannot be taught in Army classes. Again, in regard to work, the most popular regiments are certainly not those in which there is the least to do. The hardest worked ones are notoriously the cavalry, the field artillery, and the engineers, and for these there is seldom or ever any lack of recruits. I believe that work itself is not distasteful to the soldier when it is regulated properly. But what men, old and young, hate, is what they call being "humbugged about"; that is to say, being taken, at uncertain hours, to do unnecessary duties. I have often seen an infantry sergeant-major go into recreation rooms or canteens, after ordinary working hours, in order to sweep up a few men to do some fatigue work, the need for which was not foreseen when orders were given out in the morning. This system, or rather want of system, is particularly distasteful to men, and should never be resorted to except in case of a fire or a riot.

At one time in my Army service, when I was particularly interested in infantry training, I collected some details showing how recruits and trained soldiers were usually occupied throughout an ordinary working day, in an ordinary English barrack, and the information thus acquired was most instructive. (See Appendix III.)

Let us now consider in detail what a soldier has to do after he has enlisted. It may be said that his life is made up of the work that he has to perform in return for the pay he receives; the relaxation



that he can obtain in out-of-work hours; and the training that he can get to fit him for employment when he returns to civil life. Of course the first business of a young man as soon as he has taken up, whether for a short or long period, the profession of arms, is to make himself fit for the duties of a soldier. To do this, he must be strong and active, able to carry a rifle and ammunition, and such articles of campaigning kit as may be required for a march of 12 to 20 miles, and then be fit either to fight a battle, or to watch the enemy as an outpost sentry through the hours of night. Then he must be a good rifle shot, and proficient in the use of the bayonet; he must know how to handle pick and shovel; and he must be able to carry out without hesitation the military exercises that put him in a position to use his arms with best effect. He should also know those campaigning accomplishments which tend to keep him in health and strength during the stress of war. Finally, he must learn the lessons of implicit obedience to those placed over him, and of cheerful endeavour to do his best in whatever circumstances he may find himself; in fact, the lessons that we call "discipline."

Let us assume that an English lad, living in the suburbs of one of our rapidly growing towns, who has been carefully taught in one of our elementary schools, makes up his mind to enlist in order to see something of the world. In these latter days he would have learned physical exercises, and he would probably have played occasionally in a rough and ready way at cricket and football, so that his sinews would be in good order. His age for enlistment would be eighteen, and he must be qualified to pass the necessary medical examination. In what time can he be made thoroughly efficient so as to take his place in the ranks of a marching regiment? and what should be the process of his military education?

All who know anything of education are aware that the whole time at disposal cannot be devoted to instruction alone in order to get the most out of a student; his interest must be kept up, he must never be allowed to get "stale," and he must continually feel that he is improving. And, in order to effect this, the subjects of instruction must be diversified; no exercise, mental or physical, must be inordinately long; there must be intervals for relaxation; the hours for food and rest must be regulated, and the diet carefully thought out. The same system must be carried out, the same thought given to the subject in the case of the soldier. There must be times for physical work, times for mental instruction, times for amusement, and times for rest and food. Bearing this in mind, and taking into consideration what a soldier should know if he is to be really efficient, I think that two years, as a rule, should be reckoned on as required to turn the country lad of 18 into the trained soldier of 20.

During these two years there would not be time for special instruction in any trade or calling that would be of use to him in after life. Such instruction must be given to men as soon as they have passed an examination as a trained soldier, and are fit to perform ordinary duties.

Under the present system of infantry training, recruits are, in the first instance, sent to regimental dépôts. The course laid down there for men that belong to the Regular Army is supposed to take  $2\frac{1}{2}$  months. But to do it properly would take about a year. As a matter of fact, at many dépôts very little is taught because of the frequent demands to make up the strength of the home battalions.



On joining these latter, young men are usually treated as if they had only just enlisted, quite irrespective of any previous training they may have received, the argument being that they must learn their drill in the way in which it is taught in that particular battalion. Then the great object is to pass them as quickly as possible through such exercises as must be learned before they can take their turn of guard and other duties. The rest of the knowledge that should be acquired by a soldier is picked up, in some battalions well and quickly, in others indifferently and slowly, according to the system that exists in the regiment to which the battalion belongs. When the young soldier reaches the age of 20, he is considered available for service in India, and usually forms part of a draft to replenish the service battalion at that station, or in one of our Colonies.

I feel sure that a great many regimental officers will agree with me that there is plenty of room for improvement in what I have called the "Life of the Soldier," that is to say, his occupation while he is wearing his Majesty's uniform.

I have already indicated what a recruit has to learn in order to turn him into a trained soldier. But, before continuing my remarks on the occupations of a soldier in time of peace, I think I ought to clear away a misconception that I have occasionally found to exist in regard to the meaning of the word "training." When we talk about training a soldier, we mean, no doubt, getting him into the best possible condition for war. But the process is not the same as it is with a racehorse, or even with a prize-fighter. Our soldier must not only be strong in body, and able to stand hardships without losing vigour, but he must be clear-sighted, and able to carry out all military exercises with judgment and decision. Consequently we must take care that his course of training is as continuous and as thorough as possible. I have often seen squads of recruits that were getting on splendidly at their gymnastics and their musketry, broken up in order to swell the ranks of a battalion at brigade and divisional exercises. This may have given some practice to staff and commanding officers, but it did not teach the private in the ranks anything whatever.

I have said that, interspersed with the physical and mental training of the soldier, there must be fixed periods of relaxation. All who know anything of education will agree in this. It remains to consider what it should consist of, and how it can best be provided.

For myself the memory of the healthy exercise and splendid training of mind and body gained in the cricket and football fields at a great public school pre-dispose me in favour of those noble games. No barracks should be considered complete without ground in the close vicinity suitable for this kind of recreation; and it should be the business of military instructors to encourage men to play, rather than simply to look on and bet. Ball games, such as fives and quoits, should also be made possible. Then all barracks should be provided with dining-rooms, shower-baths, and miniature ranges, not to mention sufficient recreation rooms for reading and indoor games. But all these things are already recognised, and no doubt will be provided in full as soon as the distribution of the troops is finally settled.

The hours for meals and for sleep must be carefully thought out, and laid down in the general time-table. They will vary in different climates. In regard to meals, I have always thought that the arrangements in barracks should be as similar as possible to what they must be in the field, *i.e.*, an early breakfast, a light meal in the middle of

the day, and the heavy meal when the day's work is over. There are, I know, many opinions in regard to this. But I can't help thinking that its adoption would keep men from going out too often into the neighbouring town, and would prevent a good deal of drink and its attendant crime.

It remains to say a few words about the occupation, other than military training or relaxation, that should be provided for the trained soldier in time of peace, and I think I can't do better than quote from a private memorandum that I issued in 1892 in the Western District on the training and employment of infantry. The suggestions therein made were very well received at the time, and a good deal of interest was shown by commanding officers and others in trying to carry them out.

The proper training and employment of soldiers is, without doubt, one of the most important military questions that has to be faced. If men are well and profitably employed, crime and disease diminish, pay is economised, a feeling of improvement is set up, and they are contented and happy. Moreover, when they return to civil life, employers are willing to take them with no other recommendation than the record on their discharge certificates—and thus the Service becomes popular in the country.

The most important employment for a soldier, and the first to be considered, is, what will make him fit for the duties of war? To be fit for active service a soldier must be strong and vigorous in body and mind; he must know such exercises as are required to enable him to use his arms with full effect; and he must be properly disciplined. The way in which this result is brought about is by employing him in the exercises that we call drill, in gymnastics and manœuvres, and in barrack room occupation, such as cleaning his arms and accoutrements, etc. Now, it cannot be denied that these employments, vary them as you will, are somewhat monotonous in the infantry. In the cavalry, looking after the horses affords considerable interest, and varies the ordinary routine. In the artillery, the work with the guns and stores gives plenty of occupation, and in the Administrative Services there is usually enough for all hands to do. But in the infantry, when the day's drills are over, in many regiments at one o'clock, nothing remains for the men to do except to walk out in the streets of the nearest town. Now, drills and exercises by themselves are hardly enough to keep a man in condition for war; and they only fit him for civil life in as far as they inculcate in him habits of obedience, tidiness, and cleanliness. Hence it is necessary to try and find something else for him to do. Other occupations can be found in the regimental shops, in gardens, in such work as that of clerks or officers' servants, in what is called garrison "employ," such as labour in the ordnance stores, or the R.E. yard, in orderly work, fatigues, etc.

I am aware that these occupations are much decried. Commanding officers frequently say "they don't know where their men are, they are all on garrison employ or regimental fatigues." But I believe that all these occupations are of advantage if properly controlled and done at regular hours, so as not to interfere with the more military employment first mentioned.

There is room, too, I believe, for occasional sports, and these are beneficial if kept under proper control.

I will now suggest for consideration one or two points in regard to the method of organising employment in a battalion of infantry.



*a.* Establish a *time-table*. Without this it would be impossible to work any of the manufactories or public schools, whose management has made England famous; and without it I am sure it must be exceedingly difficult, if not impossible, to work such a complicated machine as a regiment.

*b.* Take care that whatever work is done shall be carried out thoroughly, and not in a half-hearted way, otherwise it is of no use as a means of training; and don't let any one occupation last too long.

*c.* Let every man know beforehand what he has got to do throughout the day.

*d.* Establish certain days for particular drills and exercises, as far as possible, and regular hours for payments, inspection of kits, and other routine duties.

*e.* Let only good men, who know their military work, be employed at any special occupation where extra pay or any advantage results.

*f.* Let all men, however employed, take their turn of guards, and such drills and duties as are considered necessary; otherwise, those who do the guards and duties are discontented.

*g.* Let all special fatigues, as far as possible, be done in the afternoons, and then be done regularly under non-commissioned officers detailed for the duty, and supervised by the captain or subaltern on duty. Fatigues to clean empty barrack rooms and accessories, to weed and roll parades, and do other necessary work about the barracks, could, at all events, be always done in the afternoons; and they could be done at regular fixed hours by the balance of men who are not otherwise employed. This occupation would then correspond with evening stables in the cavalry and artillery.

*h.* No one should be allowed to leave barracks until a regular fixed hour—that is to say, until the day's work is supposed to be over.

In regard to the drills and exercises which, as I have already stated, must form the first and most important part of the training of a soldier, I would make the following suggestions:—

Go through the drill books, and lay down in orders, each week, or periodically, what is to be done, and who are to be the instructors. Arrange that all young men shall have one short physical drill or gymnastic exercise daily.

Have a commanding officer's parade at least twice a week, and make it a rule that every man in the battalion, however employed, attends at one or other of them.

When the men parade in marching order, do a few exercises with arms, and at the double, to test the fit of the accoutrements.

Do all possible to obtain suitable ground on which to carry out the various company and battalion exercises; and bear in mind that, on the march to and from any ground at a distance, a good deal can be done in the way of instruction and training. A slack march is worse than useless, but a carefully ordered and well conducted one is a good lesson for all ranks, and a training for mind as well as body. It is no doubt the case, that a good deal of what I have recommended in these remarks is already done in regiments. Still, there may be some points in which improvement is possible, and these are the points that I commend for careful consideration. I should like all officers and non-commissioned officers to be impressed with the feeling that there is no duty so honourable, and at the same time so responsible, as the charge and training of men. There may, now and then, be a sense of monotony in incessantly repeating the same task. But this mono-



tony is nothing to what exists in many other professions, and by a careful arrangement of the time-table, and a proper distribution of responsibility, it may be reduced to a minimum.

### *Mobilisation.*

In the preceding pages I have given my opinion regarding what we should do to obtain men under a voluntary system for the British Army. I have shown how the soldiers of that Army ought to be equipped for war, and how they should be organised to enable them to use their arms with the greatest effect. I have also dealt with the question of the distribution and training of our troops in time of peace so that they may be able to respond at once to any calls that the Empire may make on them in time of war. It now only remains to explain how they can best be prepared when war threatens. But in this connection I may mention that in every phase of the subject I have kept to the fore the all-important question of preparation for war. For I felt that, unless this was done, there was danger that when the machine was wanted it would not work.

In dealing with distribution I have explained how, for purposes of training as well as of administration, the British Isles must be divided into military districts. In these districts will be found the various units that make up the divisions and army corps of a field army, and to the generals and staff of these districts the duty would devolve of seeing that every unit is fit to undergo the hardships of war. The concentration for summer drills of small bodies such as brigades could usually be arranged for in districts. But the concentration of larger bodies which would necessitate the co-operation of two or more districts, would have to be ordered from headquarters. This has its advantages, because it is good practice for our Intelligence Branch at the War Office to have to organise them, and to detail the necessary staff.

While on this subject I may mention that to maintain in districts a larger staff than is necessary, is not only a useless expenditure, but an absolutely harmful one. For it gets officers into the habit of leaning on others instead of thinking for themselves, with the result that there is much writing, and considerable obstruction and delay in carrying on the work. In time of war there are many local duties to perform that are not required in peace, such as the intelligence work, the care of the wounded and sending forward reinforcements, re-organisations rendered necessary by changes in plans, the administration of occupied country, not to mention the arrangements for working railways and telegraph lines, and those incident to the constantly changing requirements of supply and transport. Now all this necessitates a large staff at, or near, army headquarters, and at certain points on the line of communications, and at the base. On the other hand, in districts in time of peace there is the never-ceasing work of looking after the training of the troops.

Without doubt a good staff policy should take care that district staffs are not too big. But, at the same time, a considerable number of officers should be attached to our Intelligence Branch at Headquarters, and as many as possible of these should be employed in surveys and other special work under the Foreign Office and the Colonial Office. Others should obtain temporary employment during

the summer at small or big manœuvres, where the staff should be formed as if for war, and perform, as far as possible, war duties. The Intelligence Branch should, of course, keep a careful record of all the officers who might be useful in time of war, so that there would be no delay then in filling up the appointments.

I will now take up the immediate subject of this portion of my article, viz., Mobilisation.

Literally, mobilisation signifies to make movable. But it has been taken to apply to the whole process by which a peace army is changed into a war one, *i.e.*, completing the various existing units with men, horses, and stores, and creating any further units that are not kept up in peace time.

The regulations for mobilisation, issued in 1904, are, to my mind, well suited for the somewhat peculiar circumstances of the British Army. The proposals I have made would not alter them in principle, so I will confine myself to explaining, a little more in detail than I have hitherto done, the Scheme of Defence for the British Isles, and show how the Army can take up with the least possible disturbance of the country's labour-market, the duties of war.

The Scheme of Defence for the British Isles depends on naval considerations.

I have already, under the heading of Distribution, assumed certain conditions to guide the distribution of the troops in the United Kingdom in time of peace. I will assume these same conditions as the basis on which to build a Scheme of Defence. The actual conditions can only be laid down by the Government of the day, on the advice of the Council of Defence, and I am glad to feel that this Council is now really an imperial one, and therefore, one likely to steer clear of party politics.

Briefly, the conditions are:—

1. A field force held ready at short notice for an expedition abroad in concert with the fleet.
2. A similar field force to take the place of the first when it has left the country.
3. Garrisons for our naval stations at home.
4. Supports for the naval coast-guard.
5. Reserves to maintain and reinforce British white troops in India, and in our naval coaling and repairing stations abroad.
6. Troops to maintain and strengthen the field force, or act elsewhere if the Empire is in need of them.

I assume that the field force 1. should be composed entirely of Regulars, and that it should consist of 6 infantry divisions, organised as I have suggested, and 2 cavalry divisions, and line of communication troops for a line of communications by road, railway, and river, of 100 miles in length.

This would be practically 2 army corps. In order to enable it to be used rapidly, before the Reserves were called out, one of these should be maintained at war strength. The other might be of lower strength, to be made up from the Reserves. The staff for this Force should all be named, and the officers warned. They should be called out, and put in their places at the annual exercises, or manœuvres.

The stores should all be ready, located either at the stations of the troops, or at the ports of embarkation, from which they would depart.

It has already been laid down that all war stores in our Army should be of such sizes and shapes that they can be used with pack transport if required. One of the divisions should practise annually with pack transport, to test the fitting of saddles and straps, etc., and to enable the men to become acquainted with their peculiarities. We should thus be prepared, at all events, with patterns, for a war in which pack transport was necessary, as well as one in which wheel transport could be used. The latter, of course, would be used whenever possible, because it is much the most economical.

The second field force should be similar to the first, but it should be taken mainly from the Militia. The stores might at first be on a home scale, but all arrangements for their completion to full war requirements should be thought out beforehand, so that there would be no delay in preparing the force for war, if they were required to go abroad in addition to the first.

The garrisons for our naval stations at home require carefully going into. Each one has to be worked out in accordance with the local Scheme of Defence, when the latter has been modified to agree with the Scheme of Defence of the whole country. I think that, with the exception of a portion of the artillery and engineers, which might be Militia, the whole of these garrisons might be supplied from local Volunteers, especially if the organisation that I have proposed (the company one) be adopted. Volunteer battalions should be organised in multiples of three, and should be prepared to put into garrison, at short notice, and maintain there, a third of their companies. The battalions might be brigaded for administrative purposes, as may be found most convenient locally.

In the earlier part of this lecture, I said that each Volunteer corps should have a "service" section ready to reinforce the Regular battalion, or other unit to which it was affiliated. The strength of the section that could be guaranteed by each corps, and the way in which they could best be grouped together must be carefully considered locally. No doubt the double-company organisation that I have proposed would make the application of the arrangement more satisfactory than it was in the South African War. It will be necessary to settle the extra grant per head of the section, and to lay down the qualifications. The fact of a corps having a certain number of soldiers willing to be formed into a section or company for active service abroad, need not interfere with the Volunteers carrying out the duty of garrisoning our naval fortresses at home, or supporting our naval coast-guardsmen. They would not be called upon to furnish the reinforcements to the Regulars unless the war we were engaged in was a serious one, beyond the power of our ordinary field forces to cope with. When, eventually, the service sections left the country, their places would have to be taken by Volunteer Reserves, or fresh Volunteer enlistments. The staff and other details for each garrison would be worked out in the Scheme of Defence. The equipment for troops in home garrisons could be a modified one. But personal equipment should be the same in garrison as in the field, so that the individual soldier could be made available for any duty that might be required of him.

A few words on the subject of supports for the naval coast-guard. Anyone who has visited the coasts of Great Britain knows that at



every point, guarding every landing-place, there is a small naval force on shore. From morning to night these coast-guardsmen are sweeping the horizon with their glasses. They know what every passing vessel is about, and to what nation it belongs. They are continually on the alert, in peace time to protect us from smugglers, in war time from inimical raiders. But in war time they might require, now and then, some assistance to enable them to carry out their duty; and so I propose to detail supports to them from local Volunteers and local Yeomanry. These troops could be worked in the same way as I have suggested for the home garrisons, viz., by providing one-third of their numbers at a time. The Scheme for the whole coast will have to be worked out in districts, in consultation with the local naval authority, or by a special committee. The result that I would aim at would be to form a series of outposts round our coasts in strength proportionate to the work that might have to be done. In each case the naval coast-guardsmen would be the eyes of the outposts, and upon them it would rest to summon all, or a portion of the supports whenever they thought it necessary. Should a raid ever be made of sufficient strength to drive in an outpost, the latter would have its line of retreat on its Reserve, which would be placed in a central position. The outpost Reserve might then either resist the raid, or, if thought necessary, retire towards the nearest fortress. Any further dealing with the raid would be the business of the field army.

The troops that we require to maintain and reinforce the white troops in India, and in our naval repairing stations abroad, must be Regulars. They can be supplied by drafts from battalions and other units, the latter being made up to war strength when required, by calling out the Reserves; or they can be supplied from special dépôts.

There are advantages and disadvantages in either system. Without going into the arguments, I offer the following as a solution of the difficulty:—

The drafts for all cavalry at home and abroad to be sent direct from dépôts; the regiments at home, except those in the first cavalry division, being maintained at a lower strength, and made up from the Army Reserve on the threat of war. The same plan to be adopted generally for the artillery and the engineers. In the case of the infantry, both systems should, I think, be kept going. Battalions in India which do not take recruits until they are 20 years of age, should be supplied with drafts of trained soldiers from battalions kept at certain stations at home. The same arrangement should be made for battalions at our naval bases abroad, where they might be considered as on their way to or from India. In time of war these training battalions could be made up to war strength from the Reserves, and form the nucleus of a third field force.

Battalions of the first field force, which it is proposed to hold in hand in England for rapid action in connection with the Navy, should be supplied with trained soldiers, or partially trained recruits from specially organised military schools like those of the Guards at Caterham, or of the Rifles at Winchester. The same arrangement should be made for battalions sent temporarily abroad, which is now the case in Egypt and South Africa. These battalions would, for purposes of organisation, be considered to belong to the first field force.

In working out the relief of battalions abroad, the change in the system of supplying drafts will have to be borne in mind.

Lastly, we should have the Militia that we possess, in addition to the second field force, to make up the third, or even, if thought necessary, a fourth field force, similar to those already described. But whatever strength is decided on by the Government for the British Army, the central mobilisation branch must have a scheme for forming the various arms into divisions, and equipping them with all the necessary stores.

There would still be the Militia Reserve to supply drafts, and as a general support to the Army.

### *Conclusion.*

To sum up the recommendations that I have made in this lecture :

1. Physical training, not necessarily for Army purposes, but for the benefit of the race, should be a part of the curriculum at all elementary schools in the British Isles.

Moreover, the history taught in the same schools, with a view to promote and foster feelings of patriotism in the rising generation, should draw special attention to all noble deeds that have tended to make the Empire what it is.

2. Boys' Brigades and Cadet Corps should be encouraged by inspections in military districts, and by a carefully prepared scale of assistance rendered out of War Office funds.

3. Enlistment, as described under the heading *How to Get Men*, should commence at the age of 18. The conditions should be as free as possible; that is to say, the terms should, within limits, be short, so that a man can readily return to civil occupations if he can find employment; but at the same time, if he fails to obtain other employment, or prefers a soldier's life, he should be allowed to continue in military service until he has earned a pension.

4. Personal equipment for war should be designed on scientific principles, and should be frequently worn to accustom men to its use.

It would be well, I think, having settled what articles a soldier should carry in war, and what are the conditions of a good equipment, to offer a prize large enough to attract the constructive ingenuity of the nation. We might then obtain something better than other nations have got, instead of the reverse.

5. Infantry organisation should be modified to enable full advantage to be taken of the changes brought about by improved firearms in modern tactics.

In working out a new organisation, the principal point to observe is to stop duplication of duties, so as to ensure that every officer and non-commissioned officer shall have a distinct responsibility from the time he starts. For thus only can you train men in time of peace, and make it safe to decentralise command in time of war.

6. In working out a system of training, the difference between recruit training and training for a field soldier should be fully recognised.

In order to make training a reality, soldiers should be divided into three classes, viz.:—Recruits or third class, trained soldiers or second class and first class. The latter should include all scouts and non-commissioned officers. A physical and mental examination should be required for promotion in each class, and promotion should carry with it extra pay and a badge.

*Recruit training* should be carried out in military schools at depôts and elsewhere. *Field training* in battalions and other units. The whole routine of education and training in battalions, which is the life of the soldier in peace, must be systematised and made happy and useful.

7. A Scheme of Defence, based on the general Scheme of Defence for the Empire, should be prepared for the British Isles. For only by so doing will the whole business of Army Government be able to be seen in its true proportions. And only then can the machinery for the administration and training of all our various troops, at home and abroad, be properly set up, and efficiently worked.

## APPENDIX I.

### FIELD SERVICE BLANKETS.

For many years, dating from the experience gained in the campaigns under Wellington in the Peninsula, there were two blankets in the British Army: a field service one, which was only made as large as was necessary to keep the soldier warm in camp or bivouac, and a barrack one for use on a barrack bed. The latter was much larger and heavier than the former. But in time of peace it occurred to some would-be reformer that it would tend very much to simplify accounts if there were only one pattern instead of two, and the field service blanket was abolished. I wonder whether the transport officers in South Africa, who had such difficulty in keeping up the supplies of food and ammunition, ever realised the extra amount of weight that this one little "reform" imposed on them, or the cost to the country of all the extra transport that it entailed.

## APPENDIX II.

### THE GREAT-COAT.

A few words in regard to one of the indispensable articles of a soldier's kit, viz., the great-coat, which is required to keep a man warm in camp or bivouac.

The following information regarding it was sent to me during the fighting in South Africa, in answer to the questions: Is the great-coat good, or is it too heavy? Would a lighter one of better material and warmer be an advantage?

*Answer:* "I don't think the great-coat good; it is still too heavy, and men would rather go through the chilly early mornings shivering than have to carry their coats on the march. It is also not large enough, I mean in breadth. It ought to be able to be put on like a cape over everything, accoutrements and all, so that a man on piquet simply throws off his coat and is in fighting kit. I suggest a coat of better material than the present one, and thicker, but shorter. Some of the King's Royal Rifles from India have a very good one; it looks like a covert coat, but is slightly longer; it is lined with flannel, and is very broad."

If ever the Aldershot Dress and Equipment Committee have again to take up the question of the pattern of the great-coat for dismounted men, I recommend them to give up attempting to make one coat answer



for two purposes. It can never be made light enough to be carried easily on the line of march, and yet be a real protection in the night bivouac if it has also to serve as a watch-coat for a sentry on guard over an English palace. Every soldier should be provided with a coat suitable for war, and every guard-room should contain sufficient watch-coats for the sentries that it mounts.

### APPENDIX III.

I will take an instance from the notes I made at the time, because it shows what the soldier means when he says he is "humbugged about." A battalion, the name of which I forget, returned from foreign service, and came to take up its quarters in one of the Devonport barracks, when I was in command of the Western District. This battalion was not in as good order as the others at the station, and it was specially watched by the staff.

Among other peculiarities, it was noticed that the men were roused from their beds two hours earlier than there was any occasion for; and, having nothing to do, they used to sit shivering on the edges of their bedsteads (for it was the depth of winter), and no doubt cursing pretty freely the system that allowed them to undergo such useless discomfort. I need hardly add that it did not take long to abolish this custom, and turn the curse into a blessing.

Colonel W. T. DOONER (Late Royal Inniskilling Fusiliers):—The time at the disposal of each speaker is so short that I must go to my points at once, and therefore I will not lose a moment in making any preliminary observations. I think we are all deeply indebted to Sir Richard Harrison for coming here to-day and giving us this excellent lecture, and I hope I am voicing your opinions when I say that he has probably done well in looking at any future organisation of the Army from the stand-point of the voluntary system and not from any compulsory method of enlistment. Sir Richard Harrison recognises apparently, as I do, that any form of compulsory service, even for home defence, has not as yet come within the range of practical politics. I think if you study any address made by any Member of Parliament to his constituents, you will find that the subject is never referred to. No candidate for Parliament ever ventures to touch on this subject of conscription, and I think the people of these islands are against it. Sir Richard Harrison apparently does not think that any form of compulsion is necessary at present. He says:—"Let us first do what we can to train all the men we get under the voluntary system, and let us do everything possible to encourage the patriotic spirit of the country." I think if we do that it will accomplish all we require. In any consideration of this question of compulsory service, it is necessary also to consider the extra expense. The Secretary of State for War, as you are probably all aware, said in Parliament that he wondered if any gentleman who argued in favour of conscription had considered what the extra expense to the State would be, and then made the calculation that it would cost an extra sum of 26 millions a year. This calculation was incorrect; Mr. Arnold-Forster seems to have made his calculation on the principle of giving every conscript a clear shilling a day, but our present soldiers do not receive a clear shilling a day on enlistment; and that is the reason, I think, that the voluntary system has never been

given a fair and proper trial. I had much to do with recruiting as a commanding officer for ten years, so I hope you will recognise that I probably know something about what I am saying. When the men go up to the pay table for their first payment (and Mr. Arnold-Forster has pointed it out many times, and the greatest credit is due to him for having done so), they only receive some four shillings weekly. Do you think that the voluntary system, when the men are given such pay and emoluments as that, has been given a fair trial? I do not. There are many other arguments against compulsory service which should be borne in mind. Volunteers for active service are always to be preferred to pressed men, and we have all read of what went on in Russia, in connection with the mobilisation of reservists. In Russia any man who volunteers to serve his country is looked upon with suspicion; happily with us it is different, and the volunteer is looked upon, I hope, as one of the most patriotic men in the country. It is the same in Japan. The first point that Sir Richard mentioned, to which I wish to refer, was with regard to the terms of enlistment. It is not of very great importance within reason what the terms are, whether eight years with the colours and four with the reserve, or, as Mr. Arnold-Forster changed it, to nine with the colours and three with the reserve. Of the two, what Sir Richard Harrison proposes is the better, and for this reason, that eight years with the colours will give a man four years in the reserve, and the reserve will not be depleted; but if the men run to nine years, as they do now, there will possibly be a grave deficiency hereafter in the reserve. The men who are enlisting now for nine years will only have three years in the reserve when they leave the colours, if they leave the colours at all, about which I have some doubt. Hereafter very many of them will be tempted to stay, and will stay. When they fully realise that they have given up nine years of their life to the Army, they will naturally say:—"I will try and go on for pension," and the reserves will be decreased very much thereby. Eight years with the colours and four years in the reserve, proposed by Sir Richard Harrison, is probably the best plan; seven years with the colours and five years with the reserve, proposed by Lord Cardwell, was, perhaps, better still, but in that case there was always a clause in the Attestation Paper that a man could be kept an extra year if, at the completion of his service, he was serving abroad. As practically ninety-nine men out of every hundred were serving abroad when they completed their service, they were kept for the extra year. Therefore, what really happened was, that all the men served eight years with the colours and four years with the reserve, the term proposed by the lecturer. Sir Richard Harrison has suggested several different classes of soldiers, but I think with our system it would be an impossibility for the officers, to really do justice to the men, because the latter first serve at the dépôt and are then transferred to the home battalion, and before we could probably classify them fairly they are sent on to the foreign battalion, and then it would devolve on the officers of their new battalion to classify those men without knowing very much about them. Having different classes of soldiers with our system is, I venture to think, a mistake. Sir Richard Harrison mentioned that the men should be kept only five years abroad. That would be an improvement, but will cause expense. If, however, it is adopted, a system of seven years' service with the colours would be sufficient. The regulations already lay down that all men who wish to return home can register their names and return home on the completion of six years; but as the term of enlistment up to quite recently

was only seven years, this regulation could seldom take effect as the great majority of men enlist at eighteen, and cannot be sent to India till they are 20 years of age. It would only apply in the case of men who had extended their service; the others came home as a matter of course for transfer to the reserve. There is one proposal mentioned in the paper we have heard read, which I hope I shall be able to enlist your sympathies to prevent its being carried out. I gather that Sir Richard is in favour of large special depôts for the infantry. I think he mentioned that the recruits were to be kept there for two years, and then went on to say that the present small depôts could not possibly keep the men for so long, and therefore I conclude large depôts must be intended. There are so many arguments against this system for the infantry that I fear I shall not have time to touch upon them all. I do not think, however, there is one officer who has ever commanded a regiment and regimental district who would be in favour of having large depôts—depôts of five or six territorial regiments put together into one barracks. Sir Richard Harrison belongs to that distinguished corps, the Royal Engineers. He goes down to Brompton, Chatham, and sees his corps together in one barracks; a very excellent and proper arrangement. Similarly the Secretary of State goes to Walmer or Eastney, and sees the Royal Marine Light Infantry and the Royal Marine Artillery each in one barracks. Or, perhaps, he goes to the Guards at Caterham, or to the Rifles at Winchester. But these depôts all belong to distinct corps, they are not mixed one with the other. The Green Jackets have been practically always a corps; so are also the Royal Engineers and the Guards; but with regard to the rest of the infantry, what is the proposal? Let us take the West Kent Regiment at Maidstone; the Buffs at Canterbury; the Queen's at Guildford; the Sussex at Chichester; and the Royal Fusiliers at Hounslow. It is suggested to put them together into one barracks at the latter place, and if this is done, I can only say that the *esprit de corps* of the Army will be set at naught and ruined. Or, let us cross to Ireland and take a case from there. The Inniskilling Fusiliers; the Irish Fusiliers; the Irish Rifles; and the Dublin Fusiliers, green coats and red coats, would all be moved up to Belfast and quartered together, if this scheme of large depôts is persisted in; and as Mr. Arnold-Forster said yesterday evening at Croydon, he had not changed his opinions one iota, it is presumed that this unwise scheme will be carried out. All who have served in and love their regiment, and know what *esprit de corps* means, will shudder to think of such a system. It would be only a return to what was in force forty years ago at Chatham, when there were depôt battalions, as some officers before me may remember—I remember it well, because I served with one—when there were some eight or ten depôts in one barracks. I am, perhaps, addressing some parents here who have sons who are contemplating entering the Army. May I recommend to you, if your son is successful in his examination, to see that he is not led into joining one of these mixed depôts, but take care that he gets to the home battalion at once. In this connection I would like to quote the opinion of those two distinguished field-m Marshals, Lord Wolseley and Sir Evelyn Wood. They were both against these large depôts that Sir Richard Harrison is apparently in favour of; they said they were not satisfactory training schools, and that the linked battalion system had been our salvation. There is one other point against these large depôts, and in favour of our present system, which is most important. I think the brightest spot



in our arrangements in the autumn of 1899 was the facility and quickness with which the Army was mobilised. The order for mobilisation allowed the men ten days to report themselves. I thought at the time that ten days was too long; but the result was, that the men in almost all cases reported themselves at their depôts on the ninth or tenth day. They were then transferred in batches of 100 to their battalion that was going out to South Africa, and within seven days they were on board ship, and on their way to the seat of war. Could any system be better or quicker? I venture to maintain that to interfere with an arrangement which produced such excellent results would be altogether wrong. The present territorial depôt system for mobilisation purposes is a splendid arrangement, and those who instituted it and brought it to such perfection deserve the thanks of their country. It was a great feat for the men to be transferred so quickly to the different battalions, clothed and equipped, and on board ship within one week of reporting themselves. What would happen now if these large depôts are established, say at Hounslow for the Buffs; the West Kents; the 2nd Queen's; the Sussex Regiment; and the Royal Fusiliers; or if the example I mentioned in Ireland was adopted, and that mobilisation was ordered? The reservists would be coming in, not in hundreds but in crowds, and it would be an impossibility to deal with them satisfactorily, and send them away to their home battalions. The mobilisation could not be efficiently carried out, and the cost of building suitable barracks would be enormous. Regarding the Militia, I would like to refer to Sir Richard Harrison's proposal, that the officers of the Regular Army should all join from the Military Colleges or the Universities. That is a very excellent idea if it can be carried out with due regard to the Militia, but many commanding officers of Regulars will agree with me that the officers who join their regiments from the Militia are very well educated. I venture to maintain that they run the Sandhurst cadet very close indeed. They are taught by men who are doing it to earn their bread—well-known instructors and tutors—and these Militia officers have to go through a most severe competitive examination before they can gain a commission. They, therefore, come to their battalions fit, or almost fit, to at once take their places. I should also like to ask what would have happened in 1899 if we had not had these Militia officers to fall back upon? The Regular battalions were very short of officers for active service—in some cases wanting nine or ten officers to complete them to war strength. Letters were sent round calling on the commanding officers of the Militia to recommend candidates for commissions in the Line. The candidates were officers who had failed possibly by a few marks in their examinations, but they came and took their places in the Regular battalions proceeding to South Africa, and I consider the Militia rendered us a noble service on that occasion. If I am not wearying you I would ask for a moment to refer to the Volunteers. Sir Richard has said that in the scheme of defence for the United Kingdom, the Volunteers should be three times the strength which will be required. I think it would be better if it was four times, and for this reason: that there are four battalions in a brigade, and I do not think the organisation should be different to the Line organisation. With regard to the expenses of the Volunteers, I suppose there are few in this room who are aware how the Volunteers are paid for the noble and patriotic service they give to the country. I came to learn this accidentally. The command of a battalion fell vacant, and there was some difficulty in finding a new C.O. The trouble was this, that every

battalion is paid the capitation grant yearly in arrear for their services. At the commencement of every financial year, on the 3rd or 4th April, they are paid the money for the year preceding, and the War Office sends them a cheque for services rendered during the previous year, ending the 31st March. They then have to pay all their expenses for the previous twelve months. The question then arises, how is the work to be carried on during the following year, on which they are just entering? Some corps have rich men who most liberally come forward and assist them, but the majority of corps have to go to their bankers and get an advance of £1,500 or £2,000, paying a considerable sum for the accommodation. So that an officer when he meditates assuming the command of a battalion, and finds he has to do all this, declines to accept the position. It is within my knowledge that many efficient officers have been lost to the Volunteers owing to this financial difficulty. Why cannot Volunteers be paid quarterly in arrear? Any over-payment can be easily remedied, as if a battalion was paid more than was justified by its strength the matter could be adjusted the following quarter, or at the end of the year when the returns are furnished. I beg to urge that the Volunteers should be treated with the greatest sympathy, and that this monetary anxiety should not be placed on the shoulders of commanding and senior officers. There are many other subjects I would like to refer to in the excellent lecture we have listened to, such as that organisation must give way to tactics, and not the reverse; also the number of officers in each double company proposed by Sir Richard Harrison appears to me too few. Do not forget what occurred to the Bavarians in 1870, when they had to be withdrawn from the fighting line owing to the lack of officers. In South Africa also the Inniskilling Fusiliers came out of action near Reiters Hill with only five officers. Many now lie on the Tugela Heights. My time has, however, expired, and I therefore conclude by thanking you for the very kind way in which you have listened to me.

Lieut.-Colonel ALSAGER POLLOCK (late Somersetshire Light Infantry) :—Colonel Dooner has devoted himself principally to matters on which I had intended to speak, but as I have been called upon I will endeavour to say a few words, partly with reference to some of Colonel Dooner's remarks, and partly with reference to general questions involved by the subject of the lecture. I came here prepared to hear a great deal which would not only interest but instruct, and I think you will all agree that none of us have any reason to be disappointed on that score with the lecture which has been given to us. It was my privilege in years past to serve under Sir Richard Harrison's command, and I well recollect what a lively interest he always took in a subject which has always been a special hobby of my own, company training, though I need hardly say that his familiarity with the profession of which he has been for so long an ornament was not limited to such comparatively small affairs as that. In this lecture, however, I think a point has been omitted which is of very great importance. The Militia question has been alluded to but not dealt with. We have heard from Colonel Dooner that this country will not accept compulsory service. I think it may reasonably be assumed that nobody, unless compelled to do so, by duty or necessity, would accept anything that is disagreeable. I quite agree with Colonel Dooner that the voluntary system has not yet had every opportunity it might have had, and I am very willing to grant that it is possible to arrange for an



Army, upon a voluntary system of enlistment, which may be found large enough and good enough for our needs; but at the same time, I think we should be prepared to admit that if upon the contrary it be proved that we cannot get a satisfactory Army by voluntary methods, then unless we are to depart from our estate amongst the nations we must swallow the pill of compulsory service as best as we can. There are, as the lecturer has told us, two ways of getting soldiers, the one by voluntary enlistment, and the other by compulsory enlistment. I suppose we may take it as certain that for what Sir Edward Hutton has called the "Police of the Empire," that is to say, the Regular Army, we cannot for a moment dream of exercising compulsory recruitment. But if, on the other hand, it should be necessary, we can undeniably put in force the present law of the land now merely suspended, the Ballot Act; or adopt some other means of compelling the citizen to service his country in the Militia. I think there would be one very satisfactory feature connected with the adoption of compulsory service in this country, namely, that it would at least get hold of the "sleek citizen," who has never done a hand's turn in either the winning or the keeping of the Empire since this England was a nation. Why should the Empire be defended by the top and bottom strata of the social mass? Let the great middle classes take their turn, and shoulder their rifles. The Militia appears to me to provide, if it were properly treated, just that means of expansion for the purpose of a great war that we require. It is perfectly evident that the Army which must do the normal police work of the Empire, is the Regular Army, and we all know that for the recruitment of that Army compulsion is out of the question, for the simple reason that universal service, the only tolerable form of compulsion, would involve a vast amount of quite needless expense. Were we to exchange our military system for that of Germany or France, we should have a great many more soldiers than, in any circumstances, we could possibly require, and at the same time we should not have an Army to do that which everyday our Regular forces are required to do. Thus we come, I think, to this, that if we cannot provide for the expansion upon a Regular basis, we must provide for it by means of the Militia. If only we would make the conditions of service such that men in regular work could afford to join the ranks of the Militia, and that men practising in regular professions could afford to be officers in it, we could fill the Militia hand over fist in a very few months. How can you expect a man in regular work, in whatever position of life, to turn out upon a particular date for twenty-seven days' training at a stretch? It cannot be done. A militia-man, moreover, is never properly trained from the start to the finish of his service. He is "messed about," not *trained* at the *dépôt* for only six weeks, and the Regulations say that as soon as he has been there for one week he knows so much, and when he has been there two weeks so much more, and so on to the end of the chapter. Eventually he leaves, having learned thoroughly nothing whatever. The same objection applies to a great extent to the training of the Line recruit. In the majority of *dépôts*, not a vestige of real training is even attempted. I think I know something about it; I have had some experience. There are exceptions, of course. It is not the fault of the officers; the work has been nobody's business in particular. You could not expect the colonel to be in the square all day; and unless the major was made fully responsible, I am afraid that in the majority of regimental *dépôts* the work was neglected, what little was done consisting of drill only. There is a wide difference between drill and training,



and yet, at the same time, the two require to be dove-tailed, so that you may not bore the men by sticking for too long at a time to the one or the other. We should arrange our enlistment for the Militia on a system which will allow that when you get your recruit he shall forthwith be trained thoroughly, which, in my opinion, can be done in six months. Afterwards, adopt the Volunteer plan; let the men be trained locally—by companies—so many drills in the winter in the Corn Exchange or the Drill Hall, and in the summer months exercises on Saturday afternoons and during the long evenings. Pay the men for their attendances, and then we shall readily fill the ranks. But so long as we expect men to turn out on a fixed day for twenty-seven days, so long we will never get officers or men, except the few of the higher classes who have nothing to do, and the “wasters” and casual labourers of the lower.

General Sir R. BIDDULPH, G.C.B., G.C.M.G. (Colonel Commandant Royal Artillery):—My object in rising is to say a few words with regard to the Militia, with which I have had something to do during my past career. The point to which I wish to draw attention is not so much the matter of enlistment referred to by the previous speakers, but the question which has been raised by the lecturer, of the formation of a field force of Militia for foreign service. The second field force, I think he said, which was to go abroad was to be Militia. If the Militia were an embodied force it would be another matter; but under their present organisation how could an effective field force be formed of Militia alone for foreign service? Have they got the training? Have they got the officers. That is the great difficulty. We must look back on the history of the Militia, which has been the backbone in many ways of the Army and of the defensive forces of the country. It is well known that in the Peninsular War the Militia were of the greatest service. The Duke of Wellington, in the last speech he made in the House of Lords, drew attention to the great value of the services they rendered to him in enabling him to carry out the policy of the country during the Peninsular War. But they did not serve in the war as Militia; militia-men were taken into the Line regiments. I ought perhaps to say that three provisional battalions of Militia were sent abroad in 1814. They landed at Bordeaux in May, were re-embarked there in June, and were disbanded two or three months later. If you will read Sir John Moore's “Life,” you will find that his celebrated Light Division, which he trained at Shorncliffe, was composed very largely of militia-men, who were drafted into the Regular regiments of the Line which formed the Light Division which he took abroad. In the same way, when we hear of so many militia-men being at Waterloo, that is perfectly true, but they were serving in the regiments of the Line. During the Crimean War an Act was passed authorising Militia regiments to serve in the Mediterranean with their own consent. They were again during the South African War sent abroad, but that was during a time of very great stress. From what I have been told, however—I was not in South Africa myself—the experience gained in connection with them was not such as would encourage the formation of a field force of Militia alone. Even at the time when the Militia was looked to for the defence of England, at the time when there was a threat of invasion, when the Duke of Wellington was alive, and when he wrote his famous letter to Sir John Burgoyne, the whole idea then was to raise 80,000 militia-men, but they were to be mixed with the Line for the field force in England. A field force in England is very different from a field force abroad; it is impossible to

compare a defensive field force in England with an offensive field force abroad. I therefore think it would be conveying a false impression to the people of this country if we let it go forth that we think a field force could be wisely formed of the Militia alone as it at present stands. It is not fair to the country to advocate such a policy. The great value of the Militia ought to be as a reserve to the Line; they should support the Line, and that was intended in the organisation of 1870. The report of General MacDougall's Committee is well worth reading. It is an excellent report, and the Committee pointed out clearly that our policy in war would be to decide what number of men we are able to put in the field; and secondly, to keep that number of men up to fighting strength the whole time; that you must put your best men into the field first—the very best men you have—because a success at the beginning shortens the war, and may possibly end it. Therefore, that point ought not to be lost sight of. It seems to me that, looking at the organisation of the Militia as it is at present, especially in connection with the officers, many of whom are professional men and cannot leave their work permanently, that something should be done in that connection. You remember what occurred in the Crimean War, how many of the officers of Militia had to resign their commissions because they could not get away from their business for two years, and were obliged to resign on that account. You cannot expect that in these days you will get a force adequately officered from such men. I therefore think the Militia should be looked upon as being a force which should be mixed with the Line regiments, and supply them with both officers and men as the occasion demands. I feel sure they would be most valuable and useful in that way. The question of the Militia I do not think has been sufficiently taken into consideration. People now talk about forming Militia divisions for the purpose of going abroad. I do not think that is an economic or satisfactory way of using the Militia. We should try and keep our forces abroad up to the highest possible state of efficiency; but we have to fill their ranks, and we also have to supply officers. The Duke of Wellington never fought in the Peninsular War without every battalion in the field being worked in that manner; that is to say, we had 2,000 trained officers and men to fight a battalion abroad of 1,000 men. When Lord Hardinge was examined before the Committee of the House of Commons in 1855, after the Crimean War, he stated in his evidence that the reason for all our difficulties was because we only had single battalions to send abroad, and no battalions at home to support them. In a memorandum written in 1854, he referred to the greater efficiency of the Guards because they were formed on a double battalion system. We had no difficulty with the Artillery, also because they were formed into one regiment, and we could select the men and officers for field service without restriction. During the war we could only supply the Infantry of the Line with recruits from the depôts, and that is the reason they are no good. Lord Raglan, when he was told he could have some more recruits, said he would rather be without them, because they only filled his hospitals. General MacDougall's Committee proposed in 1870, that directly a war broke out, the Militia should be embodied and should be continually supplying the battalions abroad, because the great object is to keep the Army in the field thoroughly supplied with men.

Colonel H. H. A. STEWART (late Donegal Artillery Militia):—The lecturer in his very able remarks spoke of the Militia recruit being trained during the winter months. As we are to have a voluntary Army—at all



events for the present.—I think that if you train militia-men or any other men during the winter months they will get a very cold reception. I retain to this day the memory of the misery I endured as a young ensign in my regiment in the winter of 1860-61<sup>1</sup> at Devonport. The lecturer has written most excellently on individual soldiers being allowed to serve abroad for only five years. I think the principle might be extended to units; that is, batteries of Artillery, battalions of Infantry, and regiments of Cavalry should not be allowed to serve abroad for more than six years. We saw in the papers the other day that a battalion had come home after twenty years of foreign service. I think that is a scandal, and especially so in these days when the ends of the earth have been brought together. There is one observation of the gallant lecturer that seems to me a little obscure. He says that candidates for appointment as officers in the Militia should first have two years' training. If I correctly interpret the lecturer, I think that would be impossible of adoption. How are they going to be trained—as civilians, or what? I speak as having commanded a Militia regiment for seven or eight years, and I say it would be impossible to get gentlemen to serve two years' training simply to obtain an appointment as second lieutenant in a Militia regiment. I know the difficulty of getting officers when they have no training at all to do beforehand, and I do not think there are any militia-men here who will contradict me.

Lieut.-Colonel E. GUNTER (late East Lancashire Regiment):—I will not pay compliments to so well-known an officer as Sir Richard Harrison for his admirable lecture. He begins his lecture very properly, if I may venture respectfully to say so, with how to get the men. That, I submit, is the crux of the whole question. Sir Richard has said that that can only be accomplished either by conscription or by voluntary enlistment. I venture respectfully to say that the system adopted abroad is no longer conscription—it is a minor point perhaps—but it has a different meaning. It is universal military service. There are a great many people in this country who favour universal military service, including a great many officers, some of whom occupy the very highest positions. I think that is a question which cannot possibly be left out of a discussion of this kind; but, if universal military service cannot be accepted, then I beg to bring before the meeting the proposals of the National Service League for universal military training, which is not to be confused with universal military service. It is a different thing. It appeals to the sporting element, and a great many of the young men of this country, especially the working men, are fully prepared to accept it. I cannot, on the present occasion, go into the details of the scheme. It is well known that the National Service League proposes, broadly speaking, that every young man between the ages of eighteen and twenty-five shall undergo a course of training, either for the naval or military service, to fit them for service in case of a great national emergency. This course of training can be easily arranged without disorganising the Regular forces, the Militia, or the Volunteers. Whether it should be carried out in connection with the Militia or the Volunteers, there is no doubt that every man should be trained. That, I think, is an acknowledged principle. We of the National Service League submit for your consideration that, if this were done, a certain number of men would automatically over-flow into the Line; a large number of men would

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<sup>1</sup>An extremely severe one.—H.H.A.S.



automatically over-flow into the Militia; and a great many more still would, perhaps, over-flow into the Volunteers; and so without any absolute compulsion, excepting the obligation to train, the forces at the disposal of the Empire would be very largely increased. It would also form a reservoir of partially trained men, who could be called upon to fill the ranks in any case of national emergency. There are one or two other points that I should like to touch upon. First of all I should like to support Colonel Dooner in what he said with regard to the Militia officers. I am sorry Sir Richard Harrison excluded the Militia officers from the Regulars, as he said they should be obtained either from the Military Colleges or the Universities. I think the Militia officers during the time of the South African War came forward in a most gallant manner, and many of them to my knowledge, served for two years without commissions, and did very good service indeed. I cannot understand why Sir Richard Harrison suggests that Militia officers should require the same length of training as recruits, namely, two years. I would venture to submit that an intelligent officer would hardly require two years' training, although a recruit might. I should think one year or less would be quite enough before he presents himself for his examination. The next point that strikes me is with regard to the organisation. I do not want to take up too much time in regard to it. I think the double-company system which Sir Richard Harrison has brought forward may be a very economical one. Whether it would work, I and a great many others have our doubts. During thirty-three years' service I commanded a company for a long time. I do not think a double-company answers in this way, that, if you put two captains under a major, they are not in the same position of responsibility that a captain of a single company is in; they cannot be held responsible for the training of their men in the same way that captains of single companies would be. It would come to this, that the captains would have to refer almost everything to the major, which I think would very much impair their independence. If a larger company must be formed, I think it would be better to have six companies of 160 men each, each commanded by a captain or a major according to his seniority. It has been said that that is too large a company to command. I do not think it is. I have commanded a company of 160 men, and I found it very little more difficult to command a company of that size than one composed of only 100 men. A good company organisation is required in sections, each under an officer, there being four subalterns and one captain to each company of 160. As far as I understand it, Sir Richard's proposal is that there shall be one captain and one lieutenant to 120 men. I ask those officers who have had experience in the field, Is one officer to sixty men enough? because that is what it comes to. Can one officer manage sixty men in the field or properly train them? I am quite aware that a proposal has been made to substitute warrant officers for officers, to make up for the deficiency of officers; but it is not quite the same thing. Nobody values the warrant officer or the splendid non-commissioned officers that we have more than I do, because we owe so much to them; but warrant officers are not quite the same as commissioned officers, and to diminish the number of officers to that extent would be a fatal thing. Incidentally I may mention that if a large number of young men were compelled to train, a great many of these young men from the University and others would very soon qualify themselves for commissions, and I think that would go a good way towards solving the difficulty in regard to the dearth of officers.

With regard to the organisation of the higher units, as I myself ventured to propose in 1895, that every division should have three brigades as always giving the brigadier a solid compact force wherewith to make a flank attack or to keep as a reserve, I cordially support Sir Richard Harrison's suggestion that we should have three brigades, and if the third brigade could be a mounted brigade, so much the better; it will enable flank movements and attacks to be carried out. With regard to the question of scouts, the scouts are said to be mounted. Has Sir Richard considered the great difficulty of mounted men reconnoitring a position in the present day? I think it was found in the Japanese war that it was almost impossible. With regard to the divisional organisation, I should very much like to see the divisions increased to a strength of 12,000 men. Our divisions are too small. If a German general can command 12,000 men, why should not an English general? I cordially support the lecturer in his desire to have the number of Field Engineers increased.

Captain T. H. FALKINER (late Connaught Rangers):—Unlike Colonel Dooner, I would like to be allowed to make one preliminary observation. As a soldier, I have been a member of this Institution for ten years. I address it to-day for the first time in a treble capacity: In the first place, that of a civilian; in the second place, as a candidate for Parliament; and in the third place, as a member of the Army League. I do not propose to go into the questions which have been dealt with at great length by preceding speakers, but I will endeavour to give to the meeting one, or possibly two, thoughts which I have come here to invite discussion upon. It seems to me that the whole question of Army reorganisation turns on the point of what we require our Army for. If you read the books on the subject by Mr. Amery, of the *Times*, Mr. Gwynne, Reuter's able correspondent, and the late much-lamented author of "The Absent-minded War," you will find that they all ask that question, which remains still unanswered, as far as I know, and to which I would humbly venture to give a reply. We require to organise our Army according to its strategical and tactical requirements, and I venture to suggest that the strategical and tactical requirements depend upon the conditions, that we require our Army to enable us as a nation to bring a superiority of force to bear at the decisive point. Then comes the question: What is the decisive point? The decisive point depends on the number of nations who are likely to oppose us. I therefore suggest that we reorganise our Army on the understanding that we have to oppose ourselves to the greatest conceivable combination. We then have to consider how we are to make our skeleton. I suggest that we make our skeleton—in other words, draw up our Army reorganisation—on the one principle that it should be capable of automatic expansion. That is to say, that we should be able to build it up storey upon storey *ad infinitum*. A previous speaker mentioned the question of conscription, and stated that it was a question that candidates for Parliament would not dare to approach. For myself, when going amongst those whom I hope will be my future constituents, I venture to say this, in reply to those who advocate conscription because other nations have adopted it: England refuses to adopt conscription, because amongst the nations of this universe England does not follow; she always takes the lead.

General Sir RICHARD HARRISON, G.C.B., C.M.G., in reply said:—I have just a few words to say in explanation. My chief object in reading



this lecture to-day was to deal with the subject as a whole. I wished to put the whole question down in black and white before the members of this Institution, and in doing so I think it is very probable that I have omitted certain points of detail which I could have gone more into if I had not had such a very big subject before me. But even if I had gone into questions of detail very carefully, one cannot expect that in a big subject like this there should not be certain points on which we are not all agreed. I do not think there is anybody who could produce a scheme to which everyone would entirely agree. It is absolutely necessary, if this great question is ever to be tackled, that the best men the country can produce should come together and formulate a scheme that the country would have confidence in. Private opinions should then be put on one side, and all should agree to pull together and do their best to carry out the scheme that the Government provided. I will just say one word in regard to the remarks which have been made. Colonel Dooner agrees that, for the present at all events, the voluntary system ought to be tried and made the best of. Colonel Dooner then went on to refer to large dépôts. I cannot go into this question and argue it out with him now; but I shall be very happy to meet him and talk it over some other time. In that part of my lecture that deals with training, I went into the question of dépôts. What I said generally was that there are two systems of dépôts, viz.: that of feeding one battalion from another, or that of having a separate dépôt. There are advantages and disadvantages in both systems. The system of feeding battalions from one central dépôt has succeeded extremely well with the Guards and the Rifles. I do not know that it has ever been tried in other regiments<sup>1</sup>; I have never heard of it yet. Colonel Pollock agrees also, I think, generally with what I said. Sir Robert Biddulph made some remarks in regard to the Militia. He has his opinion about it; but my opinion has always been that it is rather hard for a fine force like the Militia to act simply as a recruit supplier to the Line. I have always thought, and still think, that the Militia could be so organised and so improved that it could form a fighting defensive force of its own, and also be available to go abroad if wanted. Other nations have a force really very little different to a Militia one. The Swiss have a force which is almost nearer a Volunteer than a Militia system, and many foreign Armies have little if more training than the force that I propose we should have.

Lieut.-Colonel E. GUNTER, *p.s.c.* (late East Lancashire Regiment):—In foreign Armies, all the old soldiers are in the Militia; they pass through the ranks.

Colonel H. H. A. STEWART (late Donegal Artillery, Mil.):—I should also like to ask the gallant General what the Swiss Army has ever done in the field.

General Sir RICHARD HARRISON:—At any rate we know this, that it has defended its country for a good many years. Colonel Gunter talked about universal military training, and I do not think I have said a word against that in my lecture; I alluded to it to a certain extent under the head of Training. I do not think I have anything more to say, except to thank you for the cordial manner in which you have received my lecture, and especially to thank those who have criticised it.

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<sup>1</sup>A dépôt battalion is not a dépôt in this sense.—R.H.



The CHAIRMAN (the Earl of Donoughmore):—The very pleasant duty devolves upon me as Chairman to propose a hearty vote of thanks to the lecturer for his most interesting lecture. What little I intended to say has more or less been covered by previous speakers. Sir Richard Harrison set himself a very agreeable task. He started with a mind imagining a blank sheet as regards Army organisation, and he proceeded to build up that organisation step by step and place it before us; and I think we can all congratulate ourselves that the result of the building up has been an organisation very similar to the British Army as it is at the present day, and it will be much more similar to the Army at the present day when certain modifications which are immediately projected are carried out. This being the condition of affairs, it naturally follows that except perhaps for a detail here and there, it has not fallen to the lot of any speaker to fall very much foul of the scheme put forward by the lecturer. I myself wish for a few minutes to refer to two points which have not been touched upon by previous speakers—one in a spirit of agreement, and one in a spirit of perfect disagreement. Sir Richard Harrison has advocated what is known as the special service section of the Volunteers. I hope he will not take it unkindly when I say that I hope the idea of a special service section in any part of the Auxiliary Forces is dead and buried for ever. And why? What does the special service section mean? It means a collection in a regiment of all the best men of the regiment; and the minute you want that regiment to take its share in active warfare, you take the special service section away to the Regular Army. You take all the best men out of the regiment and leave the regiment without its best men during the most important part of its life, when it has to carry out the duties of actual warfare. It has always seemed to me that that has been a bad theory in the past. The same theory applied in the old Militia Reserve, by which the best men of the Militia were drafted into the Line immediately the Army went to war, and I sincerely hope we shall not go back to that system again. On the other hand, I was extremely glad to hear what Sir Richard Harrison said on the other point to which I wish to direct attention, viz.: that with regard to the organisation of the Royal Engineers, his own distinguished corps. There is no doubt that the Russo-Japanese War has taught us—even more than we learned in South Africa—that it is almost impossible to contemplate the development which will undoubtedly occur in the future, with regard to military engineering. There is undoubtedly a tremendous future before military engineering such as we never dreamed of in the past, and equally there will have to be a tremendous reorganisation in our methods of dealing with the Royal Engineers. We do not know yet the exact lines upon which that reorganisation will take place, but I am glad to know that so distinguished a member of the Corps of the Royal Engineers recognises already that that reorganisation has got to take place; and with that spirit existing in the corps it will make the reorganisation very much easier to carry out. Before I sit down I think it is my duty to take up one challenge which has been thrown out with reference to the subject of compulsory service. The old figure with which we are all so familiar, the 26 millions, was mentioned, and it does not seem to be realised what that 26 millions was meant to illustrate. The question was asked: What would be the cost of training 340,000 men for one year in the same way as we now train the Regular Army at home? And the answer was: “26 millions, if you give them a shilling a day.” Now our friends, the advocates of compulsory service, say: “Pay them

nothing." Very well, pay them nothing, and do you know how much you reduce the sum by? The soldier's pay is, roughly, one-third of his cost, and that still leaves you with about 16 or 17 millions as the cost. Again, 340,000 I admit might be too large a number, a larger number than we might want. Halve it, and you still have an increase of 8 millions in the Army Estimates.

Lieut.-Colonel E. GUNTER :—Half the number that came forward would be unfit; that has been proved over and over again.

The CHAIRMAN :—There are 340,000 young men in the country who attain the age of eighteen every year. Allow half as being unfit and for the few who go into the Navy, and that leaves you 170,000. Take it at 150,000, the very least it would cost you for that number for barracks for them, for proper officers to train them all the year round, including non-commissioned officers, would be 7 millions a year—the figures have been very carefully gone into—which would mean 3½d. on the income-tax, and I do not think any Government would face that yet.

Lieut.-Colonel E. GUNTER :—It would not cost so much to train them as it would to train Regular troops.

The CHAIRMAN :—Then will they be good enough to face foreign soldiers?

Lieut.-Colonel E. GUNTER :—I think if they were trained for six months in the first year and two months in successive years that would be enough.

The CHAIRMAN :—I am taking the report of the Royal Commission, which recommended one year, and which the figures that have been quoted were meant to illustrate. You must also remember that if the men were given only six months' training it would not simply halve the estimate, because I do not think you would get officers to train men for six months and do nothing for the remaining six months.

Lieut.-Colonel E. GUNTER :—Have you taken into consideration that you could reduce your Regular Army?

The CHAIRMAN :—Certainly you could not take 3½ millions off what you spend on the Regular Army. That I absolutely deny; 3½ millions is a very large sum, and the Army even now has not got all it wants. I only mentioned this point because I thought it was my duty to do so, and because I think it has not always been quite realised what the 26 millions was meant to illustrate. It was not meant as an estimate of the cost of all the schemes of compulsory service that have been put forward; it was mentioned in connection with the particular one which was under consideration at the time, which is not the general scheme which is put forward by all advocates of compulsory service. I merely ask you now to pass a hearty vote of thanks to the lecturer for his exceedingly interesting lecture.

# THE SIEGE OF PORT ARTHUR FROM A NAVAL ASPECT.

*By Mr. A. CURTIS<sup>1</sup>*

*(Special War Correspondent of the Chicago "Daily News").*

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Friday, 10th November, 1905.

Admiral the Hon. Sir EDMUND FREMANTLE, G.C.B., C.M.G., etc., who was to have presided, having been unexpectedly summoned to Court, the Chair was temporarily taken by Commander W. F. CABORNE, C.B., R.N.R.

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IT says much for the open-mindedness of the members of this great and useful Institution which so happily links the present with the past, the military questions of the day with the mighty struggles by land and by sea to which the British people owe their independence and their power, that civilians should be invited to attend here from time to time to address gatherings of naval and military officers upon special features and incidents of great military and naval undertakings. That the honour is greatly valued need not be said. For my own part, I can but hope that what I have to say may serve to throw a little additional light on the conditions of a contest whose details were obscured rather than revealed by not a few of the newspaper despatches published. I propose, in the first place, to give you a sketch of the naval work connected with the siege of Port Arthur, and, in the second place, to touch briefly upon the lessons that may be deduced from a careful study of the various operations, and the conditions under which those operations were conducted. For the conditions, no less than the results of the operations, were most noteworthy.

As you know, the first staggering blow in the war was delivered by the Navy. That was on the night of the 8th February, 1904, and on the following day Admiral Togo made his first attack upon the stronghold. From that date on to the middle of December, in other words almost to the end of the siege, the pick of the Japanese Navy kept watch and guard over the Port, maintaining an effectual blockade, which undoubtedly expedited the downfall of the so-called impregnable fortress. It is quite correct, therefore, to say that the Navy shares with the Third Imperial Army the glory of the re-capture of a port which strangely enough bears an English Naval officer's name, although it had been a naval base of the Chinese for two or three centuries. The fortress and fleet at Port Arthur engaged Togo's attention from that eventful day in February (6th) when he received orders to put to sea—because all the

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<sup>1</sup> Mr. Curtis is Editor of the Kobe "*Daily News*," and has resided over 14 years in Japan.



painstaking efforts of the Tokio statesmen had failed to avert war—until the 20th of the following December, when he spent two hours in General Nogi's camp and went personally to 203 Metre Hill to satisfy himself—I use his own simple words—that “the main strength of the Port Arthur Squadron had been practically destroyed, leaving only the insignificant gun-boat ‘Otvajny’ and a few destroyers.” The naval operations extended over a period of ten months, whereas the military operations on shore lasted from the middle of May (the battle of Nanshan was fought on 26th May) until the 2nd of January, a period of seven and a half months.

I have said that the circumscribed harbour to which we gave the name of Port Arthur in 1860 after Lieut.-Commander W. Arthur, of H.M.S. “Algerine,” was a recognised naval base of the Chinese long years before. Some very interesting facts were given me on this point by Professor Shiga during my sojourn with General Baron Nogi's Army. Professor Shiga, who, by the way, regrets that the poetic side of war is not made more of by correspondents and historians, is a well-known Chinese scholar, whose love of alliteration has relieved the monotony of many a weary hour in camp. I am indebted to him for the information that Liujun-kau (*kau* means mouth) or Riojun Ko, as the Japanese pronounce it, had a history of its own long before it acquired prominence in the eyes of Occidentals by reason of the fortifications and works erected there by Von Hanneken under the direction of the late Li Hung Chang. It was a recognised anchorage and place of call for war junks 250 or 300 years ago, and a garrison was quartered in the town of Suishiyang, which is situated about two miles inland. In an old Chinese work entitled “Ming Etoshi,” a history of the Unification accomplished by the Ming Dynasty, there is this reference to the town and fort: “Liujun-kau lies 120 *li* south of the castle of Kinchau. Since ancient times transport vessels have been accustomed to anchor here. At the present time there is a garrison of seamen at Suishiyang. In the present dynasty the war-vessels have been stationed at Liujun-kau and a garrison has been kept at Suishiyang.” This work, which dates back about 250 years, was republished in the very early days of the present dynasty. But this claim respecting the comparative antiquity of the place does not rest upon the work referred to alone. Prominent amongst the shell-destroyed ruins of Suishiyang there stood for some weeks a large temple. The walls were riddled in places with Russian shells, and almost all the images were in pieces. For a long time the largest wooden statue—one erected to Kwang-yu, the War-god of the Chinese in garrison at Suishiyang prior to the Japan-China War, remained in position and intact, save for a rifle bullet through the breast, but before the great forts on the east fell this, too, was destroyed, leaving only the large stone tablet on which is inscribed the dedication. This inscription, which has happily escaped the ravages of war, tells us that since the temple was established 160 or more years have elapsed. Now, this tablet was erected by the Chinese prior to 1894, so the temple cannot have been less, though it may well have been more, than 170 years old. I have said enough to show how very ill-founded is the idea—still prevalent in some quarters—that the history of Port Arthur dates from its conversion into a modern naval fortress by the Viceroy of Pechili. We should never have fallen into the mistake of supposing that the port was nameless and unknown had the earlier visitors possessed a little more

knowledge of China, for when the "Algerine" anchored there in 1860, as Paymaster-in-Chief Blakeney tells us in his recently published record of surveying service on the coasts of "Cathay and Cipango," a "fleet of junks" was seen "near what appeared to be a strongly built fort," and it was noticed that "they were painted differently to the trading junks." These boats that the British officers saw on 30th June, 1860, were almost certainly Chinese war junks. No one who has seen a Chinese war junk will be in doubt on this point. I have gone somewhat fully into this matter, because there are still many who believe with the author of the work I have referred to, that the Chinese Government did not know of the existence of the place "till it was revealed by an Englishman."

When Vice-Admiral Togo steamed out of Sasebo on 6th February, he had with him the First, Second, Third, and Fourth Squadrons. The Fourth, commanded by Rear-Admiral Uryu, proceeded to Chemulpo. Vice-Admiral Togo flew his flag on the "Mikasa"; with him were the battle-ships "Hatsuse," "Asahi," "Shikishima," "Fuji," and "Yashima"; the armoured cruisers "Idzumo," "Tokiwa," "Adzuma," "Yakumo," and "Iwate"; the cruisers "Yoshino," "Takasago," "Kasagi," "Chitose," and "Tatsuta" and torpedo-destroyer flotillas Nos. 1 to 4. On the 7th, the day after the combined fleet put to sea, the cruiser "Tatsuta" overhauled and captured the Russian Volunteer Fleet steamer "Rossia," a few miles from Nine-Pin Rock. It was the initial act of war and an omen of success, the bluejackekts on hearing particulars of the prize, shouting "Russia is taken," "Russia is captured." The rendezvous of the fleet was at Yuen-tao, and on 8th February, between 6 and 7 o'clock in the evening, three torpedo-destroyer flotillas, consisting of the "Asashio," "Shirakumo," "Akatsuki," "Kasumi," "Ikadzuchi," "Oboro," "Inadzuma," "Usugumo," "Shinonome," and "Sasanami" were sent in to attack the Russian fleet anchored in the outer roadstead under the great forts on Golden Hill. A fourth was despatched to Talienwan. As the boats left, the Commander-in-Chief signalled: "Blow up the enemy's squadron; I wish you all success." The bulk of Russia's naval force in Asiatic waters was anchored outside Port Arthur that night. There were six battle-ships: the "Petropavlovsk" (flag-ship of Vice-Admiral Stark), "Tsarevitch," "Retvisan," "Sevastopol," "Poltava," and "Peresviet" (flag-ship of Rear-Admiral Prince Ukhtomsky); six cruisers,—the "Pallada," "Bayan," "Diana," "Askold," "Novik," and "Boyarín"; and several gun-boats and torpedo craft. All were anchored to the east of the entrance of the harbour, the battle-ships having the inside berths. The ships were anchored in three lines. It is worthy of note that the torpedo-boats had been out on patrol duty only a few hours before the attack was made. War, in short, was expected; but it was not expected that the Japanese would have the temerity to strike the first blow. The Russian Commanders shared their Viceroy's amazing confidence in the assumed inferiority of their prospective foe. Their attitude towards the Japanese was one of overweening confidence and lordly contempt—a sure precursor of discomfiture and defeat. As the ten destroyers steamed away from the fleet they signalled, in reply to the Admiral's message, that they would either succeed or perish in the attempt. Three Russian picket boats were sighted on nearing the port, but they were too far off to do any mischief. When well inside their position, a course was shaped for the mouth of the



harbour, with the idea doubtless of deluding the look-out men into the belief that some of their own destroyers were returning. When abreast of the middle line, the leading destroyer turned swiftly to the east, setting a course for herself and consorts that took them midway between the battle-ships in shore and the cruisers. Each marked down their vessels, and on getting abreast discharged torpedoes right and left. Then and then only was the meaning of the presence of the deadly little vessels realised. Three muffled explosions followed. The Russian ships opened fire with their 12-pounders and rapid-firers; searchlights flashed wildly in all directions, but the destroyers safely ran the gauntlet and rejoined the fleet, although the forts also opened fire as they steamed away. They had successfully torpedoed two of the finest of the Russian battle-ships—the “Retvisan” and “Tsarevitch”—and the first-class protected cruiser “Pallada.” The “Tsarevitch” was struck under her port quarter, near the stern, the “Retvisan” had an enormous hole torn in her port bow, and the “Pallada” was struck under the starboard quarter. The battle-ships were only saved from sinking by being run ashore near the entrance to the harbour, while the “Pallada” was also beached and then towed inside the harbour. There was very little loss of life on either side. One of the Japanese destroyers—the “Oboro”—was damaged in a collision with the “Inadzuma,” and had to return to Sasebo for repairs. The flotilla sent into Talien Bay failed to get into touch with the enemy.

Early the next morning the cruisers “Chitose” (flying the flag of Rear-Admiral Dewa), “Chihaya,” “Takasago,” and “Tatsuta” ran in to reconnoitre. Their appearance in the offing led the Russians to suppose that another attack was intended. Upon this Vice-Admiral Stark decided to get his ships under way. He still had the “Petropavlovsk,” “Pobieda,” “Poltava,” “Sevastopol,” and “Peresviet” (battle-ships), “Diana,” “Askold,” “Bayan,” “Novik,” and “Boyarín” (cruisers). With this formidable force he started in pursuit of the Japanese cruisers. By 8.20 the whole available Russian fleet was steaming in the direction of Dalny, keeping well in shore. Within an hour the ships returned to the anchorage, and actually dropped the same great mooring anchors which had given them much trouble to weigh earlier in the morning. Two of the cruisers were sent out as scouts. These returned at 10.35 with the report that the Japanese fleet was approaching. The order of attack was signalled from Togo’s flag-ship at 11 o’clock. Luncheon had just been served, and the Admiral and his staff were drinking the Emperor’s health when an officer reported that the enemy’s fleet was in sight.

Leaving Round Island on the starboard hand, the fleet steamed in towards the anchorage in single line ahead formation, the “Mikasa” leading, followed by the “Asahi” and four other first-class battle-ships, the six first-class armoured cruisers and the four second-class cruisers already mentioned. The action was commenced by the Russians, one of the forts opening fire at 11.30, when the Japanese fleet was about seven miles from the shore. The attacking fleet was steaming at a speed of 15 knots. Thirty-nine minutes later, when the two fleets were about four miles apart, the “Mikasa” opened fire with her port 12-inch gun in the forward barbette. The Japanese gunners got the range with remarkable accuracy, the first shell hitting the battle-ship “Poltava,” and causing her to list heavily to port. Close by this battle-ship 17 torpedo craft were lying; all these took



refuge inside the harbour. Notwithstanding the use of scouts, there is reason to believe that Vice-Admiral Stark was again caught at a disadvantage, as the battle ships were slowly weighing anchor, when the Japanese fleet first hove in sight, washing their cables and trying to get their great wooden-stocked mooring anchors fished. No attempt was made to slip their cables. No anxiety was shown to get the ships under command. One eye-witness says that the crew of one three-funnelled battle-ship—either the "Peresviet" or "Pobieda"—was still engaged in throwing beds and bedding and lumber of all sorts through the midship gun ports as the ship gained headway. When the action began, the Russian ships were in a bunch and more or less helpless, only the cruisers having got clear. An auxiliary cruiser, one of the steamers of the Russian Volunteer Fleet, got under way with less delay, and steamed out half a mile beyond the battle-ships, but she found things so hot there that she had to put about. Strange to say she escaped destruction. The battle-ships never attempted to engage the foe, remaining all the time close in under the heavy guns of the forts on the headlands. The cruisers fought well, notably the "Novik," whose commander handled her in a very plucky manner, much to the admiration of the Japanese. During the action the cruiser "Askold" had her after funnel and main-topmast shot away. The cruiser "Pallada" took part in the engagement, although aground. A 10-inch shell from one of the Russian ships struck the first-class cruiser "Iwate," and another struck the battle-ship "Fuji," killing Lieut.-Commander Yamanaka and a second lieutenant. A midshipman of the "Hatsuse" was cut almost in two by a fragment of a shell, and a 10-inch shell struck the fighting-top of the "Mikasa." There were a few casualties also on board the "Yakumo" and "Shikishima." The "Asahi," "Yashima," "Idzumo," and "Adzuma" escaped without a scratch. Four of the Russian ships—the "Poltava," "Diana," "Askold," and "Novik"—were badly damaged about the water-line. The action lasted about 50 minutes, the Japanese fleet steaming across the Russian front in perfect order shortly before one o'clock. Some damage was done on shore by the bombardment, and for a time panic reigned on all sides. Three hours after the bombardment the Government took charge of all stores and provisions. Many houses of business were closed permanently, their chiefs having fled northward. The railway station was besieged by people anxious to get away. Port Arthur, in short, was demoralised, and there is every reason to credit the statements of Russian officers after the capitulation—that had the Japanese attacked the fortress resolutely in the early days of the war, the place must inevitably have fallen. The defencelessness of the stronghold even impressed the authorities. In all, nine shore batteries took part in the engagement, chiefly those on Golden Hill and Electric Hill, which used mortars and 9-inch guns. There were a few casualties in the forts. In the fleet the Russian loss was 4 officers and 21 seamen killed, and 97 men wounded. The most striking feature of the action, beyond question, was the valiant part played by the swift, mastless cruiser which embodied the ideas of, if she was not to all intents designed by, Admiral Makaroff—the "Novik." Her commander (Captain von Essen, the same officer who afterwards handled the "Sevastopol" so well) drove her to comparatively close quarters, and pluckily kept her there until disabled by a shot from one of the Japanese ships. The little "Novik" alone won the admiration of the chivalrous foe. Several of the Japanese officers testified to the splendid

way in which she had been handled, and this generous statement was destined to find renewed expression some months later when, after the battle of 10th August, the dauntless cruiser ran the gauntlet of the Japanese fleet, and successfully reached home waters ten days later.

Students of naval tactics will assuredly have much to say respecting the vast contrast afforded by the movements of the two fleets. On the one side we have a picture of order and adherence to prearranged plans, eye-witnesses of the engagement testifying that the Japanese ships steamed in in regular order, every ship in her own place, single line ahead, the whole movement being carried out with the precision of an ordinary manœuvre in time of peace; while, on the other hand, the Russians made no pretence of either keeping formation or engaging in concerted action during the battle. We know that one battle-ship, and at least one cruiser, manœuvred independently, and it is equally clear that a majority of the ships kept close in under the land fortifications. It is true that the Russian account of the operations states that when the approach of the Japanese fleet was signalled on the morning of the 9th, "everything was ready to repulse the enemy"; that all the ships, "under full steam, were ready to engage"; and that "at the beginning of the battle our ships were all in one line, but they presently drew up in double formation." This would seem to indicate that the Russian Commander-in-Chief really had a definite plan of action on the eventful day, whereas his actual course suggests rather that if he had such a plan it was of an essentially negative kind, being, as events proved, to keep close in shore under the fortified and friendly headlands, and await attack. The issue might have been foreseen. Had Vice-Admiral Stark ventured forth to meet his enemy, despite an obvious disparity of strength, the whole course of the war might have been altered. With the "Pobieda," which Admiral Alexieff mentions as having been in the leading line (*vide* official despatch published in St. Petersburg on 18th February—no allusion is made to this ship in any other account), Stark had five efficient battle-ships to oppose to Togo's six first-class battle-ships, and five cruisers of different types and power, to meet five first-class armoured cruisers and an equal number of second or third-class cruisers. The outcome of a fight on these terms could hardly have been favourable to the Northern Power; but, on the other hand, it is in the highest degree improbable that, had the Russian Admiral boldly steamed out to intercept Togo as he steamed up from the eastward, the Japanese fleet would have escaped without losing some of its strongest units. Admit that such a course would have been to court destruction, can it be supposed that it would not have crippled the Japanese fleet? And, with that fleet crippled, with as many ships sunk, or even almost as many sunk as the Russians would have lost, under this hypothesis, would Japan have so easily maintained her supremacy at sea? There can be but one answer to this, I think, and that is my reason for holding that the interests of Russia demanded such a frightful sacrifice of ships and men on the part of Vice-Admiral Stark, as a sea fight *à outrance* on the morning of 9th February, 1904, would unquestionably have meant.

Fortunately for Japan, the Russian Commander-in-Chief was as deficient in initiative as in daring.

During February two more movements were made by the fleet against the defences of the stronghold — a torpedo attack on the morning of the 14th and a blocking expedition during the night of the 23rd.



The torpedo attack on the 14th February was entrusted to the Fourth Flotilla, which, it will be remembered, was sent into Talien Bay on the occasion of the first attack on 8th February. Not having had an opportunity to win signal distinction when the first great blow was delivered, Commander Nagai, who was in command of the Fourth Flotilla, consisting of the "Hayatori," "Asagiri," "Murasame," and "Harusame," was given the privilege of making the second attack. The time chosen was the small hours of the 14th. A heavy gale was blowing when the four destroyers left the fleet on 13th February, and to add to the difficulties of the run, a severe snowstorm set in. Owing to this, the boats lost each other *en route*, and two of them, the "Harusame" and "Murasame," failed to make the harbour mouth. The "Asagiri," in command of Lieutenant Ishikawa, reached her appointed destination at 3 o'clock, only to be at once recognised and shelled, both ports and war-ships opening fire upon her as she ran in towards her intended prey—one of the larger ships of the enemy. She discharged a torpedo at the vessel singled out for attack, but it went wide of the mark. The "Asagiri" then steamed away, giving some picket-boats a broadside as she passed out. Two hours later the "Hayatori" made the anchorage, and, getting close in under cover of darkness, fired a torpedo, which exploded with terrific force alongside a war-ship.

According to the Naval Department in Tokio, this war-ship was the second-class cruiser "Boyarin." It is very doubtful, however, if it was the "Boyarin." This vessel came to grief a little more than a month later, viz., on 16th March, when she sunk as the result of striking one of their own mines. The majority of the crew perished. It is not improbable that the cruiser torpedoed by the "Hayatori" was the steel twin-screw armoured cruiser "Bayan," launched at La Seyne in 1900. It was not possible to ascertain the extent of the damage inflicted, but as the "Hayatori" was no less fortunate than her consort in getting away safely, the attack must be regarded as a success. As the Commander-in-Chief remarked in his official report to Imperial Headquarters, even if none of the enemy's ships were destroyed, the moral effect of the attack is not to be lost sight of.

A few days later, the bulk of the enemy's fleet having been compelled to take refuge in Port Arthur, several of them being in a badly damaged state, Vice-Admiral Togo made a daring effort to block the mouth of the harbour. Only the cruisers "Novik," "Askold," and "Bayan" and a few torpedo destroyers had been seen outside for some days, the battle-ship "Retvisan," aground inside the lighthouse on the western side of the entrance, still obstructed the fairway. Five merchant-steamers, the "Jinsen Maru" (2,330 tons), "Tenshin Maru" (2,934 tons), "Hokoku Maru" (2,766 tons), the "Buyo Maru" (1,063 tons) and "Bushu Maru" (1,248 tons) had been brought over from Osaka with a cargo of stones and handed over to the fleet. Small naval crews were put on board, and everything was made ready for one of the most reckless enterprises recorded in the history of naval warfare. In all seventy-seven men and officers were required for this forlorn hope, and it is significant of the fine ardour and devotion of the Japanese seamen that more than two thousand volunteered for the undertaking. One of the petty officers—son of a small farmer in Mino Province—wrote his application for permission to take part in the expedition in blood taken from one of his fingers. Before the doomed vessels were sent away, farewell ceremonies were held on board



the war-ships from which the volunteer crews were drawn. At the formal leave-taking on board the armoured cruiser "Asama," Captain Yashiro addressed the men in the following terms:—

"In sending you on this expedition to block the entrance to Port Arthur, an expedition in which the chances are a thousand to one against your returning alive, I feel as I should were I sending my own sons. Had I 100 sons I would send them all on such a bold adventure, and had I but one son, gladly would I devote his life to such an end. In the discharge of your duty work with all your might. If you lose your left hand, rely on your right; if you lose both, work with your feet; and if you lose your feet, trust to your head to execute faithfully the orders of your commander. You are going to the place of death. I have no doubt that you are quite ready to die. Nevertheless, do not suppose that I would advise you to despise your life or run unnecessary risks in hope of winning signal renown. What I do ask you to do is to execute your duty regardless of your lives. This cup of water which I give you is not meant to serve as an encouragement, but as a symbol of your fitness to uphold the glory of the "Asama." It would indeed be a shame if any of us needed Dutch courage to go to the place of death. If you return in safety, your perilous work successfully achieved, I shall rejoice. Submit your life to the will of Heaven, and calmly perform your dangerous duty."

The flotilla of transports was under command of Commander Arima, of the flag-ship "Mikasa." The five steamers left the naval base late on 23rd February, convoyed by a number of torpedo destroyers and torpedo-boats, and arrived off Port Arthur at 2 a.m. on the 24th. After the destroyers had reconnoitred the ground, the doomed merchantmen were driven in at full speed. By this time the enemy were on the alert. Electric search lights lit up the roadstead along four distinct, constantly varying paths, and a hot fire was kept up from the forts on Golden Hill, Mantaushan, and Tiger's Tail, and from the stranded war-ship "Retvisan." The first vessel to come to grief was the "Tenshin Maru," which, in endeavouring to avoid the searching rays of the electric lights, ran into shallow water and stranded on the eastern side of Liaotishan. The "Bushu Maru" and "Buyo Maru" were not much more successful. A shot from one of the forts struck the former's steering gear, and the ship, becoming unmanageable, her commanding officer ran her ashore not far from the "Tenshin Maru," and blew her up. The "Buyo Maru" also was so badly cut up by the enemy's fire that she was headed for the shore and destroyed before getting anywhere near the harbour mouth. The "Hokoku" and "Jinsen" were more fortunate. Advancing in face of a terrific fire, both these vessels succeeded in making the entrance. When close to the lighthouse on the western side of the entrance, the former was blown up, while the "Jinsen Maru" was sunk about  $2\frac{1}{2}$  chains S.E. by E. of the "Hokoku Maru." Every man on board the "Tenshin Maru," "Buyo Maru," and "Bushu Maru" was rescued by the torpedo-boats in attendance, but the crews of the "Jinsen Maru" and "Hokoku" were not picked up until the afternoon of the next day, after several hours' buffeting about in a heavy sea. Owing to the severity of the Russian fire and the vigilance of the guards in

charge of the electric search-lights on shore, it was found impossible to communicate with the torpedo-boats. Their only safety lay in keeping in under the bluffs. Commander Hirose, of the "Hokoku," greatly distinguished himself on this occasion. He drove his ship close into the entrance and there blew her up. Hardly had all on board jumped into a boat than the commander discovered that he had left his sword behind. Instantly returning to the ship to secure his weapon, he barely managed to regain the boat alongside when a terrific report rent the air; a minute later the "Hokoku" disappeared in deep water. It cannot be said this expedition accomplished the end which Vice-Admiral Togo had in view, as the entrance still remained open; but it undoubtedly afforded the world a striking example of the wonderful loyalty and devotion to duty which characterises the Japanese. Contrary to all expectation the work was effected at surprisingly small cost, the casualties on the five vessels being three men wounded.

A few hours after the operations recorded above (at 10 a.m. on the 24th February), the Japanese fleet arrived off Port Arthur and endeavoured to cut off the retreat of the plucky little cruiser "Novik" (then flying the flag of the Russian Commander-in-Chief) and five destroyers, which were returning from Lao-ti-shan promontory, but the movement was not successful, although serious damage was inflicted by the fire from some of the ships. One 12-inch shell struck the "Askold" and put two guns out of action, and one of the "Bayan's" funnels was destroyed. The casualties on the Russian ships were 22 killed and 41 wounded, and in the forts 3 killed and 18 wounded. There were no casualties in the Japanese fleet. When night drew on a torpedo destroyer division was sent into the roadstead, while two other divisions of destroyers were despatched to Pigeon Bay and Dalny. Neither of the latter divisions encountered the enemy, but the first one made an attack on some ships outside of Port Arthur in face of a heavy fire. It is, however, doubtful if anything was accomplished by this night attack.

The next day at 9 a.m., Vice-Admiral Togo again appeared off the stronghold, and opened fire on the cruisers "Novik," "Askold," and "Bayan," which were anchored just outside the harbour. Sharp cannonading was kept up by both ships and forts for about 20 minutes, the Japanese ships continuing the bombardment until the enemy's cruisers retired into the inner harbour. During these operations some of the scouts attached to the Japanese fleet fell in with two of the enemy's destroyers and gave chase. One of the Russian boats was driven into Pigeon Bay and there destroyed, but the other succeeded in getting away.

In his report on the operations here referred to, Vice-Admiral Togo expressed the opinion that the aim of the Russian Commander-in-Chief was to lure the Japanese ships in near the roadstead, where they would have been exposed not only to the cross fire of the forts on the headlands, but also to submarine mines. In this connection mention must be made of the loss of the mine-laying steamer "Yenissei" in Talien Bay. This disaster occurred on the 12th February, while she was engaged in laying down contact mines for the protection of the harbour of Dalny. Great stress was laid by the Russian authorities on the unique value and importance of this unfortunate vessel and a sister-ship, the "Amur," which was destined to fall into the hands of the Japanese on the capitulation of Port Arthur.



Both vessels were designed for service as transports also. According to one of the survivors, the "Yenissei" was driven on to a mine by the wind and current. An enormous hole was torn in the ship's bows, and the captain (Itepanoff, a gallant fellow who would seem to have merited a better fate), seeing that his ship was doomed, gave the order *saue qui peut*. He refused to leave the ship himself, and went down with her. His last words were: "Good-bye, my lads; save yourselves, don't trouble about me." Evidently one of the men who might have given, had they had the opportunity, a less inglorious colouring to the records of his country's naval operations in the Russo-Japanese War. Three officers and 91 men were lost in this disaster. The wreck of the "Yenissei" was still visible on South San-shan-tao when I entered the bay in the transport "Tosa Maru" in October—eight months after she was "hoist by her own petard."

A brief period of inactivity now supervened—not improbably as a consequence of the fact that several of the Japanese war-ships were sent north to Vladivostok, under Vice-Admiral Kamimura, to bombard that naval base. Active operations were resumed on the 10th March, shortly after the arrival of Vice-Admiral Makaroff, who, in obedience to orders from St. Petersburg, left Cronstadt on the 10th February to relieve Vice-Admiral Stark. Strangely enough, one of the first steps taken by the new Commander-in-Chief was intended to effect precisely the end for which his great rival had sacrificed five valuable merchant-vessels rather more than a fortnight before, viz., the blocking of the harbour entrance. For this purpose the Russian Admiral sent out two steamers of the Eastern Chinese Railway Company laden with stones and sunk them close to the fairway. In addition booms were laid down. By these means the available channel, which was marked with buoys, etc., was reduced to less than 350 feet.

Vice-Admiral Togo's plan of operations now provided for another attack by destroyers, under cover of the battle-ships and cruisers, while a second flotilla of destroyers, under command of Lieut.-Commander Tsuchiya, ran in and strewed the channel with contact mines. The destroyers made the outer roadstead between twelve and one o'clock in the night of 9th-10th March; there were no signs whatever of the enemy outside of the harbour. The destroyers "Akebono" (Commander Kutsumi) and "Sazanami" (Commander Kondo) at once proceeded with the work of mine-laying. They had not been long engaged before they attracted the attention of the guards on shore, and drew the fire of several coast batteries. Notwithstanding this, the work was completed. Meanwhile, the destroyers "Asashio" (Commander Matsunaga), "Kasumi" (Commander Oshima), and "Akatsuki" (Lieutenant Suyoji) steamed away westward towards Lao-ti-shan, and there encountered a flotilla of six Russian destroyers. This was at about 4.30 a.m. A fierce fight at close quarters ensued, the hostile boats at times almost touching each other. Both sides suffered severely, and fires broke out on board one or two of the Russian vessels. After fighting for twenty minutes the enemy withdrew and endeavoured to make the harbour. On the way in, two of the boats were sighted by the "Sazanami" and "Akebono." Changing their own course so as to intercept the fugitives, the Japanese boats compelled the enemy to accept battle. The engagement lasted the greater part of an hour, and one of the Russian boats—the "Stereugustchi"—was terribly crippled. The other managed to get away. During the hottest



part of the action, Sub-Lieutenant Yamazaki jumped on to the "Stere gustchi's" deck and ran up the Japanese flag. An officer and two men were killed and four wounded on the Japanese boats. The "Sazanami" took the prize in tow, but had to abandon it finally, after rescuing four of the crew. The "Stere gustchi," flying the Japanese flag, sank at 10.15 a.m., after a futile move to re-capture her had been made by the cruisers "Novik" and "Bayan." During the earlier engagement off Lao-ti-shan a steam pipe on board the "Akatsuki" was severed by a shot from one of the enemy's boats, and four men were scalded to death. The total casualties on the Japanese side were fifteen killed and wounded. It is worthy of note that Vice-Admiral Makaroff was in one of the destroyers engaged in scouting outside of the harbour on the night of the 9th. The Russian Commander-in-Chief regained the harbour at dawn, and lost no time in transferring his flag to the cruiser "Novik," which, with the "Bayan," made an abortive attempt to succour the "Stere gustchi."

The same day (10th March) at 8 a.m. the Japanese cruiser squadron appeared off the fortress, in time to frustrate the Russian Admiral's attempt to succour his hard-pressed destroyers. The main body of the Japanese fleet steamed towards Lao-ti-shan, and from this less exposed position opened fire on Port Arthur. This bombardment lasted from 10 a.m. until 1.40 p.m. Shells struck the battle-ship "Retvisan," a cruiser, the hospital-ship "Mongolia" (the position of which was quite unknown to the Japanese gunners) and several of the seaward forts. One of the streets in the new city was badly cut up and many of the buildings suffered, some being almost demolished. A number of civilians, including three women, were killed by shells during the attack, and the total casualties on land and sea exceeded one hundred. The shore batteries kept up an intermittent fire during the day, but they might as well have reserved their ammunition, for all the harm they did to the Japanese ships. While this attack was being made upon Port Arthur, a cruiser squadron was ordered to Talien Bay to bombard and destroy the enemy's works on San-shan-tao, at the entrance of the Bay. This was accomplished without loss.

Two days later (12th March) Vice-Admiral Makaroff put to sea with a fleet composed of the battle-ships "Petropavlovsk," "Sevastopol," "Pobieda," and "Peresviet" and several cruisers and destroyers. With the exception of one of the cruisers, which remained outside on scouting duty, the ships returned to the harbour in the evening, without having been in touch with the Japanese fleet. An uneventful week followed. Togo was preparing for his next spring and Makaroff was hard at work on shore, assisting in the improvement and strengthening of the land defences, and inspiring both officers and men with renewed confidence and hope.

Not until the 22nd day of March was another severe blow struck at the stronghold. During the night of the 21st, two flotillas of destroyers were sent into the outer roadstead, and at 8 o'clock the following morning the combined fleet appeared off the port. The "Retvisan" opened fire at 9.20 a.m., and her big guns continued in action until 11 o'clock, but the range was too great for effective work. The main body of the Japanese fleet steamed round to Pigeon Bay, 17 miles by sea west of the harbour. This sheet of water, which is not deep enough to allow battle-ships to approach within one and a

half miles of the shore, is six miles as the crow flies from the bridge between the new and old towns. A number of low hills, none of them over 300 feet in height, screen the new or western town from the observation of a ship anchored in the Bay. Fortunately for the Japanese the coast defences on the western side of the stronghold were in a very incomplete state when the war broke out, not one of the six new batteries planned for that section being sufficiently far advanced in the month of February to receive the armament. To remedy this as far as possible mines were laid down in the Bay. In face of this danger, the battle-ships "Fuji" and "Yashima" were ordered round to the bay to bombard the inner harbour. Whether the indirect fire maintained by these ships until 2 o'clock in the afternoon had the effect of driving their enemy's fleet outside is not accurately known, but the fact remains that while the bombardment was in progress five Russian battle-ships, four cruisers, and ten destroyers steamed out into the roadstead, and there manœuvred under cover of the forts. Admiral Makaroff's purpose, it is believed, was to lure his foe within range of the shore batteries. If this was his object it completely failed, as the Japanese fleet slowly drew off and the ships were hull down before 4 o'clock. The Russian ships opened fire, but did no damage, though several shots fell dangerously near the "Fuji." On the Russian side the casualties were 25 killed and wounded.

A second attempt to close up the mouth of the harbour was made before dawn on 27th March. Only four merchant steamers were secured this time: the "Fukui Maru" (2,943 tons), "Yoneyama Maru" (2,693 tons), "Yahiko Maru" (2,692 tons), and "Chiyo Maru" (2,770 tons). At the special request of the officers and engineers who took part in the earlier blocking operations they were again selected for the perilous enterprise, but other petty officers and men were chosen. These steamers were laden with stones at Osaka prior to sailing for the naval rendezvous at the Elliot Islands, where the volunteer crews were placed on board. Each steamer carried a machine gun forward to repel the enemy's torpedo craft. Escorted by flotillas of torpedo-boats and destroyers, and convoyed by several ships of war, the blocking vessels arrived off the roadstead during the night of 26th March. Six torpedo-boats were sent in with the ships to rescue as many as possible of the crews. Leaving the fleet at 3 a.m. on the 27th, the four steamers dashed ahead at full speed towards the narrow opening between Golden Hill and the lighthouse, the "Chiyo Maru" leading. The enemy was on the *qui vive*. Powerful searchlights threw their dazzling rays down and across every line of approach, and destroyers patrolled the anchorage. Two miles from the mouth a hot fire was encountered from the coast batteries and patrol boats. Undismayed by shot and shell the doomed steamers kept on their way and succeeded in reaching the entrance. As the "Chiyo Maru" neared the goal the enemy's fire slackened, that from the destroyers ceasing entirely for a few minutes, probably because of the difficulty of discriminating between friend and foe. The leading boat dropped anchor on the eastern side of the entrance under Golden Hill, half a chain off shore, and was there blown up. A minute later the "Fukui Maru," in charge of the gallant Commander Takeo Hirose, ran in, only to be torpedoed by one of the destroyers just as her anchor was about to be dropped. Warrant Officer Sugino, who won signal distinction during the torpedo attacks



on the Chinese fleet at Liu-kung-tao (Wei-hai-wei) in 1895 (5th to 9th February), went below to fire the mine. The mine was duly exploded and the vessel sunk on the spot, but Sugino was never seen again. The "Yahiko Maru" was sunk close by the "Fukui," but nearer the lighthouse, while the "Yoneyama," after a splendid attempt to cut down one of the enemy's destroyers, made the centre of the channel inside her sunken consorts. She was there sent to the bottom by one of the enemy's torpedoes. Only 13 were killed on board the steamers as they ran the gauntlet of the shore batteries and during the subsequent operations; the wounded numbered eight. The survivors of this heroic attempt to bottle the Russian ships up in the narrow harbour got away in the ship's boats, and were eventually picked up by the torpedo-boats "Tsubame," "Kasagi," "Kari," and "Kasumi." Commander Hirose met his death through his devotion to his warrant officer, who, indeed, could not have taken part in the expedition had not an exception been made in his favour in consequence of the deep-seated attachment between the two. Realising as he was about to enter the boat that Sugino was not there, the intrepid commander went to look for him. His search proved fruitless, however, and he reluctantly joined the waiting occupants of the boat. He had hardly entered it when a shell struck him and carried him overboard, leaving but a small portion of his body in the boat to tell the ghastly tale. Strangely enough the two men had often expressed a wish that they might fall in battle side by side.

During the operations a sharp action took place about a mile from shore between the Russian destroyer "Sielni" and the torpedo-boats "Aotaka" and "Tsubame." Caught between the two the destroyer was terribly punished, her boiler being damaged, and an engineer and six men being killed. Almost everyone on board was wounded. When the Japanese boats drew off, the "Sielni" was in an apparently helpless plight, and when the boat from the "Yoneyama Maru" passed her almost an hour later she seemed to be deserted. This attempt to block the mouth of the harbour was only partially successful, although three of the vessels were sunk in the fairway. With the single exception of the "Yoneyama," which appears to have been thrown across the channel in a diagonal position by the impact of the torpedo, which sent her to the bottom just as her brave crew were preparing to sink her, the sunken ships were left almost broad-side on to the shore. As the channel at the entrance is not less than 600 feet across, four steamers lying end on could not possibly block it sufficiently to seriously interfere with navigation. As a matter of fact, an easy, if not quite direct, passage still remained. At the same time, a disinterested observer would not have endorsed the Russian Commander-in-Chief's report to St. Petersburg, that "the passage of the harbour is still entirely unimpeded." The operations elicited the following message from the Emperor Mutsuhito: "We have received the news that the combined fleet has again attempted to block Port Arthur. We appreciate the valour and bravery of the officers and men who took part in the heroic deed." In transmitting this Imperial message to Vice-Admiral Togo, Baron Yamamoto, Minister of Marine, took occasion to convey his own sense of admiration of the bravery of the officers and men who participated in this attempt to seal Port Arthur, and expressed his profound grief for those who were killed and his solicitude for the wounded.



Another spell of quiescence now set in, a fortnight going by without anything of marked importance being recorded. Both sides were busy at intervals, when the weather favoured, mining and countermining—preparing, as the sequel proved, to demonstrate that as a destructive agent pure and simple the submerged, mechanical mine is incomparably more deadly than either the torpedo or the colossal breech-loading gun.

On 11th April, Admiral Togo's fleet moved out from its base for another attack upon the naval stronghold. Besides the second, fourth and fifth flotillas of destroyers, a flotilla of torpedo-boats—the fourteenth—he had with him a small merchant steamer called the "Koryu Maru," which had been fitted up for service as a mine-laying-vessel. Accompanied by two of these flotillas, the "Koryu Maru" steamed in the direction of the harbour entrance at midnight on 12th April, and, evading the enemy's searchlights, succeeded in laying a number of mechanical mines. Her work accomplished, the "Koryu Maru" returned and rejoined the fleet in the offing without mishap. While this work was being effected, another division of destroyers was sent to cruise in the vicinity of Sien-Shang promontory. At daybreak one of the enemy's destroyers—the "Bestrachni," 350 tons—was sighted. A sharp, one-sided engagement followed. After a ten minutes' fight the Russian boat was sunk, only five of her crew escaping. Two men were wounded on board the "Inazuma," one of the destroyers belonging to the victorious flotilla. Hardly had the "Bestrachni" been disposed of before another Russian destroyer was sighted some miles off to the south-west, making for Port Arthur. An attempt was made to cut off her retreat, but it proved ineffectual, as the cruiser "Bayan" came out of the harbour and gave chase. Seeing the hopelessness of overhauling any of the destroyers, the dauntless "Bayan" turned her attention to the detachment of cruisers lying a few miles off to support the destroyer flotillas. This was about 9 a.m. (13th April). The "Bayan" opened fire, but had to fall back upon the harbour very shortly afterwards. I have said "had to fall back," but this expression may be slightly misleading, as she came out again very soon, followed by the cruisers "Novik," "Askold," and "Diana," and the battle-ships "Pobieda," "Poltava," and "Petro-pavlovsk" (flying the flag of Admiral Makaroff). Confronted by this array of force, the Japanese cruiser squadron drew off to the south-east for about 15 miles.

Clearly, both sides were endeavouring to manœuvre for a marked advantage, as, quite unknown to the Russian Admiral, Togo's battle-ships were lying off the Miaotao group, some 30 miles to the south-west, ready to run in and intercept the Russians if they allowed themselves to be lured far enough away from their base. The weather was foggy, so the conditions were not unfavourable to the Japanese strategists. A wireless message from the retreating cruisers soon apprised Admiral Togo of the situation, and in a very few minutes his crack fighting ships were headed at full speed for the enemy's roadstead. This movement was detected by Makaroff just in time to avoid an engagement against overwhelming odds. Altering his course, the Russian Commander-in-Chief steamed back to the harbour, and succeeded in averting the threatened *coup*. Then occurred one of the most tragic incidents of the war. The "Petro-pavlovsk" was leading. Just when she seemed to be once more in safe waters—the entrance to the harbour was easily visible to the

men on deck—when all danger of being caught between the upper and nether millstones of her vigilant foe's contrivance seemed over, the mighty vessel was shaken from stem to stern by the explosion of a submarine mine—one of the little "Koryu Maru's" mines dropped near the fairway a few short hours before in the darkness of the night. Eye-witnesses have stated that the battle-ship appeared to rise bodily out of the water, so great was the power suddenly released beneath her. Before those on board could realise the gravity of the disaster which had overtaken them, a second and a third explosion rent the doomed ship, as the magazines and boilers blowing up lent their resistless force to the work of devastation; and (to use the words of one of her few survivors) "almost instantly the great ship put her head down and plunged straight to the bottom of the sea," carrying with her upwards of 600 men, and the one man who had given promise by constant alertness, fearlessness, and daring, of doing something great to restore his country's shattered prestige as a naval Power. Another famous man, a man whose reputation had already been made, a man of peace, not war—the artist Verestchagin, the personal friend and guest of the unfortunate Admiral—went down with her. The Grand Duke Cyril, who was serving on board as a junior officer, was saved, although he was standing close to Admiral Makaroff on the bridge at the moment destruction, swift and absolute, overtook the ship. He with 52 others, had a marvellous escape. Amongst the lost were Rear-Admiral Molas (Chief of Staff), Captain Vasilieff (who was in command of the battle-ship), and 13 staff officers. In all, 616 men were engulfed with the ill-fated vessel.

It was 10.32 in the forenoon when the "Petropavlovsk" disappeared beneath the still waters. This crushing blow threw the other ships of the returning fleet into more or less disorder, but they continued to fire in the direction of their pursuers, until almost an hour later, when they disappeared behind Tiger's Tail. Another ship—the "Pobieda"—had a very narrow escape before she reached shelter, a Japanese torpedo-boat having dashed in and fired a torpedo at her, striking her in the forward part of her armoured section, on the starboard side. She managed to make the harbour, however, though not without great difficulty. The Japanese fleet turned and steamed out to sea at 1 p.m.

To their lasting credit be it said, the Japanese actually mourned Admiral Makaroff's death. When the captain of one of the war-ships mustered his men after the disaster and informed them of the Russian Commander-in-Chief's tragic death, the officers and crew unanimously resolved to forego drink and every form of amusement for the day "in honour of the great dead." The principal newspapers of the country published eulogistic notices of their gallant foe, and several memorial services were held. Nor was the feeling of sympathy confined to the Press and the militant forces by any means, for private individuals to whom I spoke exhibited a genuine sense of regret, and referred in touching terms to the loss of a brave and gallant opponent. Admiral Makaroff will be remembered as one of the ablest and worthiest of naval officers of the front rank in the Tsar's service.

On receipt of the terrible news of the disaster at St. Petersburg, Vice-Admiral Skrydloff was appointed to the vacant command, but before he could arrive out, communication by rail with Port Arthur had been cut off, and the control of the fleet therefore devolved upon Vice-Admiral Vitgeft, who was also doomed to perish in action after



a brief term of command. Rear-Admiral Prince Ukhtomsky remained second-in-command.

The Japanese fleet reappeared off Port Arthur two days later. Preceded by flotillas of destroyers and torpedo-boats, which arrived outside the roadstead at three o'clock in the morning of the 15th April, a detachment of cruisers (viz., the "Asama," "Tokiwa," "Kasagi," "Yoshino," "Chitose," "Kasuga," "Nisshin," and "Takasago") steamed in and reconnoitred the enemy's position at 7 a.m. No war-ships were to be seen outside the harbour. The heavier ships—the "Mikasa," "Hatsuse," "Shikishima," "Yashima," "Asahi," and "Fuji"—arrived off the port two hours later. Some of the enemy's mechanical mines had been discovered on the way round from the rendezvous and destroyed. At ten o'clock the two new cruisers purchased from the Argentine Government just before the outbreak of hostilities—the "Nisshin" and "Kasuga"—were sent round to Pigeon Bay to bombard the western harbour for about two hours and undergo their baptism of fire. A newly-constructed fort somewhat to the north of Lao-ti-shan was silenced before the ships withdrew. The war-ships and some of the forts on the west replied, but no particular damage was inflicted on either side. On shore there were a few casualties amongst the Russian soldiers and Chinese. Admiral Togo withdrew his fleet at 1.30 p.m. In concluding his report to Imperial Headquarters on the two days' operations, the Japanese Commander-in-Chief said: — "The fact that during this prolonged engagement the combined fleet was able to achieve some success without losing a single man is due to the illustrious virtue of His Majesty the Generalissimo. The officers and men fought bravely throughout the engagement, and discharged their duties faithfully; yet there still remains much in our success which cannot be attributed to human agency. We cannot help firmly believing that it is simply owing to Providential help that the numerous war-ships cruised round both day and night on the sea, on the surface of which many mechanical mines prepared by the enemy were floating, without sustaining any damage."

Nothing of great moment was done now until early in the month of May when, between three and four o'clock on the morning of the 3rd, Admiral Togo made his third and last attempt to seal up the Russian fleet. Eight merchant-steamers were reserved for destruction this time—the "Totomi Maru," "Yedo Maru," "Sagami Maru," "Sakura Maru," "Mikawa Maru," "Aikoku Maru," "Otaru Maru," and "Asagao Maru." Thousands of men volunteered for the enterprise, including the merchant seamen who brought the steamers across from Japan. Needless to say, the perilous work was again entrusted to men of the Navy exclusively. The blocking vessels and their convoy, consisting of the gun-boats "Akagi" and "Chokai," the second, third, fourth, and fifth destroyer flotillas, the ninth, tenth, and fourteenth torpedo-boat flotillas, and four steamers (the "Nagato Maru," "Shibata Maru," "Fusan Maru," and "Kokura Maru"), each fitted with powerful electric search-lights, left the naval base on the evening of the 2nd. As the expedition steamed out past the battle-ships, the enthusiasm of the crews found vent in deafening cries of "Banzai!" Admiral Togo ran up a signal wishing "Success!" To this the blocking steamers replied: "If not successful, we will never return." The weather then was calm, and everything promised well for the accomplishment of the work. A few hours later, viz.,



at 11 p.m., a strong south-easterly wind arose, causing a nasty, confused sea. Some of the vessels got out of their course, and, seeing his force being separated, the Commander-in-Chief of the expedition (Commander Mineo Hayashi) signalled to the ships to suspend the attack. Fortunately several of the ships were too distant to distinguish the signals. Efforts to establish communication with them were continued until two o'clock the following morning. The signal was made out by the "Nagato Maru," "Shibata Maru," "Fusan Maru," and "Kokura Maru," which were astern, and these vessels consequently drew off after one of the quartette had swept the sea coast with her search-light from Lao-ti-shan on the extreme west to Golden Hill, immediately to the east of the harbour mouth. Meantime the torpedo-boat flotilla and the blocking steamers continued on their course towards the mouth of the harbour, quite unconscious of any change of plans and the consequent withdrawal of the four search-light vessels. Thanks to the darkness of the night and the boisterous weather, the steamers got well in before their presence was detected by the guards at the electric search-light stations on shore, notwithstanding that the torpedo-boats had run in an hour earlier and had drawn the fire of the batteries and guard-ship. When they were within three miles of the harbour entrance, the shore batteries opened a vigorous fire upon the steamers, the gun-boats "Gremiaschty," "Gilyak," and "Otvajny" assisting. The "Mikawa Maru" (commanded by Lieutenant Sosa) was the first vessel to reach the entrance, inside of which the Russians had stretched booms to frustrate just such an attempt as the "Mikawa Maru" and her consorts were making. Submarine mines had been laid down near the entrance also. Crashing at full speed into the boom, the "Mikawa Maru" got into the narrow channel and dropped anchor in the fairway, where she was blown up and sunk. The next to arrive was the "Sakura Maru" (Lieut.-Commander Shiraishi), which was brought up and sunk just outside the lighthouse, close by the wreck of one of the steamers which took part in the first blocking expedition. Not a single man returned from the "Sakura Maru." Those of her crew that were still unwounded either made for or were swept on shore by the current, and there advanced with magnificent recklessness against one of the enemy's batteries, only to be cut down to a man. The "Totomi Maru" (Lieut.-Commander Honda) was more fortunate, as she made the entrance and ran into the boom. The impact threw her head round, and she went down on the eastern side of the channel, a short distance inside of and parallel to the boom. Already two of the steamers had accomplished much more than the nine vessels lost in the earlier expeditions, more than half of the channel being blocked by the time the "Yedo Maru" (Lieut.-Commander Takayanagi) appeared off the mouth of the harbour. Her commander was struck by a shell and killed instantly just before the anchor was dropped. Sub-Lieutenant Nagata then took command, and had the mine exploded and the ship sunk. Of the remaining boats, the "Otaru Maru" and "Sagami Maru" succeeded in reaching the entrance, and were there sunk, but the "Aikoku Maru" ran upon a submerged mine two-thirds of a mile from the lighthouse and sank immediately. The chief engineer, a lieutenant, and eight of the crew were lost. The "Asagao Maru" was not much more fortunate, as she was compelled to bring up under Golden Hill owing to a breakdown of her steering gear, and was there sunk. Her crew took to the boat and were driven on shore,

where some were captured after a desperate but vain fight. A similar fate befell the crews of the "Otaru Maru" and "Sagami Maru." One of the torpedo-boats was struck by a shell and damaged in the boiler-room. She was eventually towed out of range by another torpedo-boat. The destroyers "Aotaka" and "Hayabusa" lost a man each, and the total casualties were:—Killed, 7; wounded, 23; missing, 89. The crews of the eight vessels numbered 158. Of the missing, 30 fell into the hands of the Russians, despite the vigilance and daring of the torpedo-boats, which ran in close to the batteries at the mouth of the harbour in attempting to pick up survivors of the heroic band. That in face of heavy weather, and in spite of the additional precautions taken by the garrison to prevent any hostile boat from getting past the lighthouse, no less than five of the ships should have got in close to the boom (two of them actually getting beyond the boom), and thereby blocked the channel, is an achievement of which any Navy might justly be proud. The commanding officers had promised to succeed or die in the attempt, and they nobly kept their word, though many unfortunately laid down their lives in the work. Twenty-six were buried by the Russians with military honours on the 4th May, and twenty-two sailors and one officer (nine of the number badly wounded) were placed on board the hospital-ship "Mongolia."

Despite the statement made by a Russian official in Shanghai on the 3rd May, that the harbour was "quite free as before," there is every reason to believe that the port (as, indeed, advices received in St. Petersburg on the 7th May made clear) was "completely bottled up as regards large vessels." Small vessels could still pass through the channel with difficulty. A few days after this attack—on the 6th and following days—numerous explosions were heard in the neighbourhood of the port, and although it was at first thought that the Russians, despairing of their ability to defend the place successfully, had been blowing up their war-ship, more definite information made it clear that the explosions were caused by attempts to clear the fairway of the harbour from the ships sunk by the Japanese.

The war had now been in progress four months. After eight different attacks from the sea and three independent blocking expeditions, Admiral Togo considered himself in a position to absolutely ensure the safety of the fleet of transports required for the disembarkation of an investing Army on the peninsula.

After the successful blocking operations on the 3rd May, the principal duty which devolved upon the battle-ships and first-class cruisers for several days was to keep watch and guard over the harbour-mouth, lest some of the enemy's destroyers and smaller vessels should escape and harass the transports gathered about Pitsewo, Terminal Cape, and other bases. Early on the 15th May, when the cruisers composing the third fighting detachment, viz., the "Chitose" (flying the flag of Rear-Admiral Dewa), "Kasuga," "Yoshino," and two other vessels, were off Shantung promontory on their way back from Port Arthur, a dense fog was encountered. Before the ships ran clear of the fog, the "Kasuga" rammed the "Yoshino," cutting into her so badly on the port side near the stern that she very quickly foundered, carrying with her, unfortunately, the commander (Captain Sayegi), her lieutenant-commander, several lieutenants, four engineer-lieutenants, the surgeon, and paymaster, and about 90 of the crew. When the disaster occurred, the ill-fated cruiser had just altered



her course. That was at 1.40 a.m. A minute or two later a terrific crash was heard, many supposing that the ship had been torpedoed. Captain Sayegi ordered collision mats to be got out, and an effort was made to stop the inrush of water with tarpaulins. These attempts to save the ship proving useless, the order was given to man the boats. By this time the vessel was more or less under water. As the ship sank, the captain, who remained on the bridge to the last, shouted "Banzai!" three times, the crew responding. He remained perfectly cool throughout, and it was largely owing to his forethought that the portrait of the Emperor was saved and conveyed to the "Kasuga." The "Yoshino" was built at Elswick in 1892, and saw much service in the war against China two years later. With a speed of 23 knots and an armament of 6-inch and 4.7-inch guns, not to mention 3-pounders and torpedo-tubes, the "Yoshino" was admittedly one of the smartest vessels in the Navy, and her loss was deplored.

But this was only the beginning of the disasters that will cause the 15th of May of the thirty-eighth year of Meiji to be recalled with sorrow for years to come. A few hours later, when the battle-ships "Shikishima," "Hatsuse," and "Yashima," with the cruisers "Kasagi" and "Tatsuta," were steaming up towards Port Arthur, the "Hatsuse" struck one of the enemy's mines, damaging her steering gear. The mine must have struck the ship on the port side near the stern, as she had a list to port afterwards. This was at 10.50 a.m., and it is worthy of note that the place where the mine exploded (according to the Japanese Commander-in-Chief) is ten nautical miles south-east of Lao-ti-shan. Signals were made for assistance, and prompt measures taken to keep her from sinking. In this work Commander Arimori Genkichi rendered distinguished service. The damaged ship was taken in tow, but owing to the heavy sea running the tow-rope parted. A little later — at 0.30 p.m. — while the commander and officers of the "Hatsuse" were inspecting the damage, a second explosion shook the ship, killing Commander Arimori Genkichi instantly. This second explosion was also on the port side. The concussion was terrific. A deafening report as of near-by thunder rent the air; dense masses of smoke mingled with livid flashes rose, and then—all that remained above water of the magnificent ship were bits of wreckage and a few struggling men. The "Hatsuse" disappeared within 70 seconds of the second explosion. The despatch-boat "Tatsuta" was fortunately near by, and she rendered splendid service in rescuing the officers and crew of the ill-fated battle-ship—one of the finest productions of the Elswick Shipbuilding Yard—a ship of 15,000 tons displacement, carrying four 12-inch guns, fourteen 6-inch guns, and thirty-two of small calibre.

Rear-Admiral Nashiba and Captain Nakao were saved, but among the lost were Lieut.-Commander Tsukamoto, a very promising staff officer, Lieut.-Commander Viscount Nire, six lieutenants, five engineer-lieutenants, and two surgeon sub-lieutenants, besides upwards of 400 of the crew. One of the commissioned officers lost was Sub-Lieutenant Tanaka, who ran in to save the portraits of their Majesties the Emperor and Empress immediately the first mine exploded.

When the "Hatsuse" was in her death throes, 16 Russian destroyers steamed out to attack the other ships of the blockading squadron. Their manœuvres added to the difficulties of the situation, of course, but before they could advance close enough to do much



mischievous, the "Akitsushima," "Suma," "Akashi," "Chiyoda" and three gun-boats arrived on the scene and drove the flotilla back to the anchorage. Unhappily, this did not exhaust the list of disasters, for, in drawing away from the mine-strewn area, the battle-ship "Yashima" also struck one of the enemy's contact mines. Luckily, Captain Sakamoto, who was in command of the battle-ship, was able, by dint of almost superhuman efforts on his crew's part, to keep her afloat for some time after the explosion. An effort was made to run the damaged battle-ship into one of the inlets near Talien-wan and there beach her; but before this could be accomplished she sank in deep water, leaving (as I am advised on what I have reason to believe unimpeachable authority) only a few feet of her topmasts visible above water. To the lasting credit of her officers and crew, not a soul was lost, everyone on board having been safely removed to other ships of the squadron before she went down. This loss was not reported at the time (for reasons which will bear scrutiny), but it is a fact nevertheless. Moreover, it accords with the Russian official report, which stated that when the "Hatsuse" was lost, another Japanese battle-ship (the "Fuji" was mentioned) also struck a mine, but was not sunk. The "Yashima" was not sunk within sight of anyone at Port Arthur, either on shore or afloat. As the "Yashima" and "Fuji" were sister-ships, both having a displacement of 12,300 tons, with a speed of 19 knots, the mistake made by the Russians is quite explicable.

The loss of these two fine battle-ships and one armoured cruiser in one day was a staggering blow to the Japanese Navy, and had the full extent of the disaster been revealed officially it is quite within the bounds of possibility that some of the subsequent actions would have taken a different course. In actual war, when affairs of supreme magnitude are being directed, there are times undoubtedly when a Commander-in-Chief, conscious of his ability to save the situation, even with sadly depleted power, is justified in keeping even his own countrymen in ignorance of the real extent of a disaster. Supposing this loss of the "Yashima" had been publicly acknowledged, is it not certain that the knowledge of Togo's enormously reduced strength in battle-ships would have re-inspired, not only Vice-Admiral Vitgeft at Port Arthur, who at the time was busily repairing and refitting his battered ships, with a view to another attempt to take the sea, but also the disheartened and discouraged authorities on the Neva?

The question of responsibility for the loss of the "Hatsuse" by a mechanical contact mine found floating a distance of ten miles from shore, caused no small stir in Japan and elsewhere. Some of the Tokio journals, notably the *Kokumin* and the *Nippon*, went so far as to express the view that the brilliant successes of the fleet had perhaps engendered some measure of over-confidence, tending to produce a certain laxity in taking necessary precautions. Both press and public, however, showed a notable disinclination to indulge in any harsh criticism of the naval authorities. Whether the blow would have been borne with such equanimity and confidence had the full extent of the disaster been made known is perhaps open to doubt.

Five days after the disaster to the battle-ship squadron, at 1 a.m. on 20th May, Vice-Admiral Togo sent in a gun-boat detachment with several flotillas of destroyers and torpedo-boats to make a reconnaissance in force. The purpose was achieved, but not without some loss, as one of the gun-boats was struck by a shell and a

destroyer, the "Akatsuki," one of the swiftest and largest of the fleet, was placed *hors de combat* by a shell which killed the Commander—Lieutenant Suyetsugu—and 24 seamen. Nothing further was attempted by the Navy beyond the ordinary duties of the blockade, which were sufficiently arduous in themselves in face of much stormy and foggy weather, until 30th May. On this date, another reconnaissance was made by four gun-boats and four flotillas of destroyers and torpedo-boats. The movement being detected from the shore, several of the coastwise batteries opened a hot fire. A shell struck one of the gun-boats, killing a warrant officer, wounding three blue-jackets, and damaging a gun. It was ascertained, however, that a new searchlight had been erected on Lao-ti-shan, as well as additional batteries.

The Russians about this time erected a wireless telegraph station on the highest peak of Lao-ti-shan, presumably with the object of communicating with the Russian Consulate at Chefoo.

On the evening of 4th June, a Russian gun-boat, believed to be the "Gremiastchy," ran on a mine about one mile south of Chuengtoushan while giving chase to a Japanese torpedo-boat flotilla, and sank.

Not long after midnight on the 5th June, four Japanese gun-boats ran in close to the outer anchorage to reconnoitre, and met with a very hot reception. The batteries opened fire with such effect that one gun-boat was struck by no fewer than eight shells. She escaped in a badly damaged state, with one man killed and two wounded.

For some time after this the attention of the Navy was taken up with blockading duties, several of the smaller ships at the same time being detailed for the purpose of covering the military camps on shore near the coast. Meanwhile, detachments of destroyers and gun-boats were kept busy clearing Talien Bay and other inlets of mines. Up to the 10th June, no fewer than 75 had been discovered and destroyed in Talien Wan, and several were found and exploded inside the Gulf of Pechili, where, of course, these deadly and treacherous engines of modern warfare were as great a menace to neutral shipping as to belligerent vessels.

The Japanese mine-laying ship "Taihoku Maru," a merchant steamer fitted up to serve the purpose for which the Russian ships "Yenissei" and "Amur" were designed, reported an ugly disaster on 7th June. While engaged laying down mines in the immediate vicinity of Port Arthur, one accidentally exploded, killing Lieutenant-Commander Masaki, twelve warrant officers and six blue-jackets on the spot, and seriously wounding a number of others. Strange to relate, the ship herself sustained very little damage. A week later, 14th June, a flotilla of torpedo-boats from the various vessels made a reconnaissance in company with the Third Destroyer Flotilla and three torpedo-boat flotillas. The night was favourable, and before returning to the rendezvous several mechanical mines were safely laid down outside the port.

One of the destroyer flotillas had a narrow escape on 16th June. In the afternoon, when some ten miles off Lao-ti-shan, they came upon three of the enemy's mechanical mines. All were destroyed without mishap. A number of extemporised mines were also discovered near by, and these were fired upon and exploded.

It is difficult to say if the various reconnaissances succeeded entirely in the main object which the Commander-in-Chief had in



view. The object was to ascertain whether the channel between Golden Hill and Tiger's Tail was any longer available for large ships, while at the same time learning something as to the condition of the enemy's war-vessels within the harbour. That the blocking operations of the 3rd May had resulted in temporarily closing the channel was clear, but no one was able to say how far the garrison had been successful in blowing up the obstructions.

For some weeks only the enemy's destroyers and two or three of the smaller gunboats emerged from the harbour, but towards the middle of June the uncertainty as to the actual state of the entrance grew deeper. This necessitated the maintenance of a considerable force outside the roadstead at all times, lest the Russians should for once catch their foe napping; and notwithstanding the confidence shown and expressed by some officials in Japan, that "the issue of their (the Russian) fleet" was "out of the question," the harbour being completely blocked, these precautions proved as wise as necessary.

On the 23rd June, the enemy's fleet ventured out once more, and prominent amongst the battle-ships were the "Tsarevitch" and "Retvisan," which were so badly crippled on the eventful night in February which saw the beginning of the war.

Credit must be given the Russians for their ability to repair and refit these battle-ships, notwithstanding the fact that the only dock in the eastern basin was too small to accommodate either of them. The battle-ship "Pobieda" and the cruiser "Pallada" were also repaired.

When one of the scouts outside the port reported the reappearance of the Russian fleet, Admiral Togo resolved to divide his forces, and leaving an obviously weaker division to confront the enemy, if possible lure them into the open and there give battle. This plan, as will be seen, partially succeeded. The battle-ships "Sevastopol," "Peresviet," and "Poltava" were the first to leave the harbour, and these were soon followed by the armoured cruisers "Bayan" and "Pallada," and the cruisers "Diana," "Askold," and "Novik." Other smaller vessels, merchant-vessels apparently, were sent ahead to clear the sea of Japanese mines. Two of the Japanese destroyer flotillas did what they could to frustrate this work.

At 11 o'clock in the forenoon this squadron was joined by the battle-ships "Tsarevitch," "Retvisan" and "Pobieda." Nothing was done, however, until 3 o'clock, when an action took place between a number of torpedo craft, about seven being engaged on each side. One Russian destroyer had to seek shelter, before the cruiser "Novik" ran out and compelled the Japanese boats to draw off. Meantime a broad channel out to the offing having been cleared of mines, the fleet was headed south-east, in the direction of Shantung promontory. The decoy squadron left by Admiral Togo steamed a more southerly course. Admiral Togo himself, with four battle-ships, six armoured cruisers, and a number of destroyers and torpedo-boats, was lying under the lee of Encounter Rocks, rather more than 25 miles from Port Arthur. The leading Russian ship was eight miles north-west of Encounter Rock when first sighted. There were ten ships in single line ahead, the battle-ships leading, with the cruisers in the rear. The "Novik" and seven destroyers were some distance away on the starboard side. This was at 6.15, and all were steering a southerly course.

Admiral Togo then gave chase, and both fleets hoisted their battle flags. An hour later, the hostile fleets were still eight miles apart. Admiral Vitgeft then altered his course more to the westward, and at eight o'clock headed his ships due north, evidently with the intention of returning to Port Arthur. Admiral Togo followed suit, and both fleets steamed northward in parallel lines. At sunset (8.22 p.m.), the Japanese ships veered off to the north-west to allow the destroyer and torpedo-boat flotillas to attack the enemy. These little wasps dashed forwards at full speed, and by 9.30 came up with the sternmost vessels of the enemy's fleet, which was then five miles from the entrance to Port Arthur. Though none of the torpedoes took effect, probably owing to the distance, the attack threw the enemy's fleet into confusion. The Russian ships made the outer anchorage safely, however, and were moored stern in shore under cover of the Mantoushan and Chengtoushan forts. Throughout the night—a bright moonlight night—the torpedo-boats and destroyers attacked repeatedly, the flotillas running in under a terrible fusillade from the forts no fewer than eight times.

Owing to the method adopted in anchoring, the Russian ships presented a very small target for torpedo work. The destroyer "Shirakumo" managed to get two torpedoes home against the bow of a ship of the "Peresviet" type, and it was officially reported that the ship was seen to sink amid volumes of smoke and flame. I question very much if the ship sank, as both the "Peresviet" and "Pobieda" (the only ships of the class) took part in the naval battle of the 10th August, and the shot-pierced and badly battered hulls of both were lying on the mud in Port Arthur, close up under Pehyushan, when General Baron Nogi made his entry on 13th January, 1905.

Three other Russian ships were damaged, and had to be towed into harbour. In these attacks the "Shirakumo" received a shell in her ward-room, which damaged her steering gear and killed three men. One of the torpedo-boats was also struck, but the shell failed to explode. Two other boats were slightly damaged. In his report of this meeting of the two fleets, Admiral Togo said that "three vessels, one of the battle-ship 'Sevastopol' type, and the other two of the cruiser 'Diana' type, were injured to such an extent as to be unable to proceed under their own steam." Although neither the "Peresviet" nor "Pobieda" was sunk, there is reason to believe that the moral and material effect was considerable, as more than six weeks elapsed before Admiral Vitgeft dared attempt to put to sea again in force.

On the night of the 27th June, the Twelfth Torpedo-boat Flotilla, under Commander Yamada, steamed into the outer anchorage under cover of darkness, and torpedoed a three-funnelled cruiser at anchor under Golden Hill. The attack was made in face of a heavy fire from the forts and coast batteries, and, before the flotilla could draw off, a number of destroyers came out of the harbour to intercept the returning boats. A sharp engagement took place, in which one of the Russian destroyers was so badly injured beneath the water-line that she turned over and sank, going down in a cloud of smoke. The Japanese had 14 killed in this action, including Lieutenant Gondo.

For some weeks now the naval operations were practically confined to night attack by torpedo craft. There were torpedo engagements on 8th, 11th, and 24th July. The earlier actions were without



any very decisive result on either side. That fought on the last-mentioned date was disastrous to the Russians, as two of the destroyers then engaged returned to Port Arthur in a badly damaged condition, while one was sunk, and the fourth, as far as could be ascertained, was beached and abandoned in Pigeon Bay. It is known that the destroyer "Lieutenant Burakoff" was abandoned there towards the end of July. On the 9th July, one of the enemy's battle-ships (the "Poltava") and four cruisers—the "Bayan," "Diana," "Pallada," and "Novik"—steamed out of the harbour to cover some mine-clearing operations. A detachment of Japanese destroyers thereupon made an attack to frustrate the work, and at 4 o'clock in the afternoon the Russian ships retired inside the harbour, there to remain until 10th August.

On 26th July a spirited action was fought near the coast about nine miles east of Port Arthur. A detachment of gun-boats was engaged clearing away submarine mines near Lung-wang-tao on the morning of 26th July, when one of the little vessels fouled her propeller with one of the drag ropes. While in this helpless plight she drifted in the direction of the Russian forts. Not only the forts but two gun-boats lying close in under the protection of the guns on shore opened fire, and would have undoubtedly sunk her had not Commander Hirose taken his vessel in to her assistance and successfully towed her out. Executed under a hot fire, this manœuvre deserved and received high commendation. During the action, which lasted fully an hour, the gun-boats were repeatedly hit. Several Russian destroyers approached and attempted to torpedo the gun-boats, but the deadly missiles went wide, and both vessels ultimately ran clear and reached a safe offing near Hsiaoping-tao, having lost only three men killed. Commander Hirose, a sub-lieutenant, and nine men were wounded.

A few days later, on the afternoon of 5th August, three Japanese destroyers — the "Akebono," "Oboro," and "Inadsuma" — encountered a vastly superior force of the enemy's destroyers. The "Akebono" and "Oboro" had run in near the outer anchorage for reconnoitring purposes, when three flotillas of destroyers, 14 vessels in all, suddenly made a rush from the harbour, apparently with the intention of surrounding the two boats. On getting clear of the roadstead the Russians were headed in three different directions, four proceeding south-west, seven due south, and three due east. Seeing this, the "Oboro" and "Akebono" steamed north-east, with the object of cutting off the trio steaming east in the direction of Hsien-sheng promontory. The Japanese boats, in no way daunted by the superiority in numbers, opened fire at a range of three miles. Shortly afterwards, the three Russians turned and made for the harbour, closely followed by their consorts to the south and south-west. The "Inadsuma" now came up, and the three Japanese boats gave chase. By 6 o'clock the Russian flotillas had disappeared behind Tiger's Tail promontory.

Although, strictly speaking, it was not an incident of the siege, it is difficult to avoid dealing with the naval battle of 10th August, the fortune of the fortress from first to last—having been bound up with that of the Navy—from that eventful night when every vestige of probability that the huge "bluff" put up by St. Petersburg would be carried off disappeared amid the smoke of the guns that strove to destroy the wasps of the Japanese fleet, to another night ten months

later when the waters closed for ever over the "Sevastopol," last of the great ships of the incompetent Stark's powerful Fleet. If the fortress afforded a haven of refuge to the Fleet, the Fleet in its turn long helped (and in a measure which has not been fully appreciated) to keep the enemy from the gates, lent its guns for the strengthening of the land defences, and assisted on numerous occasions to keep open Stuessel's communications with the outside world. For these and other reasons, any real account of the siege must necessarily take cognizance of the naval features of the tremendous struggle.

At dawn on 10th August, in obedience to orders to make a break for the open sea, and, if necessary, fight its way through the cordon of Japanese war-ships, in order to effect a junction with the Vladivostok squadron, Admiral Vitgeft steamed out of Port Arthur. His fleet consisted of the "Tsarevitch" (flag-ship), "Retvisan," "Pobieda," "Peresviet," "Sevastopol," "Poltava," "Askold," "Diana," "Bayan," "Pallada," and "Novik," with eight torpedo-destroyers. A hospital-ship was in attendance. The weather conditions were perfect, for a picnic; a light, translucent haze hung over the water, and even a few hours after daylight the sky was cloudless and only the gentlest of breezes rippled the sea. The fleet included six first-class battle-ships and five fast cruisers. Misfortune overtook the command at the outset, the four-funnelled cruiser "Bayan" striking a mine at 6 o'clock. She was compelled to put back, but she reached the harbour safely and was lying in the eastern basin when General Nogi marched into the town five months afterwards. The egress of the fleet was observed by the scouts outside. By means of wireless telegraphy the fact was made known to Admiral Togo within a very few minutes and passed on to the other ships in the main squadron. There was joy in the fleet on hearing the news; everyone felt that the opportunity long looked for was at last in sight. With the first-class battle-ships "Mikasa," "Asahi," "Shikishima," and "Fuji," and the first-class cruisers "Yakumo" and "Asama" (which were joined some hours later by two more armoured cruisers—the "Nisshin" and "Kasuga") Togo set a course for Encounter Rocks (two small rocks, about 70 yards in length east and west, standing 11 feet above the high-water mark), about 25 miles south-east of Port Arthur. The Russian fleet was steaming very slowly, and was only 20 miles south of Port Arthur at 12 o'clock, nearing Encounter Rocks. Togo at this time was eight miles south-east of these rocks, on a course that seemed certain to intercept his opponent. Both fleets were in line ahead formation, steaming not more than 10 knots. After crossing the enemy's course, Togo, being determined to force a battle if possible, signalled his ships to change their formation to line abreast and steam south-sou'-west. This manœuvre, which is said by a competent judge who witnessed it to have been faultlessly executed, had the desired effect, the Russian ships continuing their southward course. Admiral Togo, of course, had no cause to suspect that the Admiral opposed to him had no other alternative, in face of his instructions, but to make for Vladivostok. Vitgeft, apparently, still cherished the hope that he might succeed in breaking through, as he altered his course slightly to the eastward at about 12.30. As the afternoon came in, the breeze, which had been very light all the morning, freshened. The Japanese squadron continued on the south-sou'-west course almost half-an-hour longer. Togo then again changed his tactics, and in line abreast formation



bore more to the southwards, very shortly afterwards swinging round to the east-nor-east in line ahead order and steering a course exactly parallel to that which he was following when the enemy was sighted. The two armoured cruisers were now leading the battle line. For some time the two fleets steamed on parallel courses, the Russians having headed almost north-east on observing Togo's tactics. It now looked very much like a race for the Port Arthur roadstead.

Fearing a repetition of the abortive affair of 23rd June, Togo once more changed his course, at the risk of appearing to desire (possibly in order to invite the idea that he desired) to avoid battle. Adopting line abeam formation, he very soon afterwards had his ships in single line ahead, bringing his flag-ship (the "Mikasa") once more in the front of the line, which was heading west-sou'-west. Vitgeft, upon perceiving this, steered almost due south and opened fire. By this time a stiff breeze was blowing, raising a nasty sea, which was not calculated to improve the gunnery practice. The range was about  $4\frac{1}{4}$  miles. Shot and shell now fell around the Japanese ships, throwing up great fountains of water in all directions. Not one struck any of Togo's ships, and not a gun was fired in reply until the distance between the two fleets had been increased to about six miles. Then the "Mikasa" and her consorts opened fire. This was at 2 o'clock, by which time the squadron had been brought round about due east, there being very little danger then that the enemy would be able to make a rush for Port Arthur. One of the first ships to be struck was the five-funnelled cruiser "Askold." She lost no time in taking refuge on the port side of the battle-ships, the other cruisers following her example. The 6-inch, 4'7's, and 3-inch guns of these cruisers (the "Novik's" biggest pieces were 4'7) were of no more service in the long-distance duel than pop-guns would have been, although the two fleets were at this time not much more than five miles apart. The "Tsarevitch," which was still in the van of the enemy's fleet, now bore off to the eastward, evidently with the hope of breaking away. At 3.30 the Japanese ceased firing, as Vitgeft had managed to get his ships beyond an effective range. Admiral Togo consequently ordered increased speed. The two fleets were still running on practically parallel courses. Half-an-hour's work at 16 knots soon brought the "Mikasa" almost in line with the "Poltava," which was in the rearmost position of the enemy's fleet. At 5.35, when the "Mikasa" was 7,900 yards from the "Tsarevitch" and 8,125 yards from the rearmost vessel, Admiral Vitgeft again opened fire, the first shot coming from the "Poltava." About ten minutes after the encounter was renewed, Togo had the supreme satisfaction of seeing the armoured cruisers "Nisshin" and "Kasuga" reinforce his line. Four minutes before six, a 12-inch shell crashed into the port side of the "Mikasa's" forward barbette. Lieut.-Commander Prince Fashimi (Hiroyasu) was on duty at the forward 12-inch guns at the time, but he escaped with slight injuries. All the guns' crew were thrown down by the terrific force of the explosion, and the turntable was damaged. It proved to be only jammed, and it was soon put in working order. An officer who was on board the flag-ship has stated that the impact of the shell was so terrific "that the action of the compressed air tore a portion of the uniform from off the Prince." At 6 o'clock Admiral Togo, having borne somewhat more to the east-nor'-east, was not much more than four miles to the south of his opponent, and the easier range was telling with deadly effect on the Russian ships. The

"Peresviet" had one of her masts shot clean away. Other ships in the line were struck several times, but the flag-ship fared worst. A 12-inch shell from the "Mikasa" crashed into her forward bridge near the conning tower, carried away most of the bridge, and killed Admiral Vitgeft and the second commander, and mortally wounded Vice-Admiral Massevitch and several officers. The captain of the ship was also wounded in the arm. The damage was not wholly on the Russian side, however, for at 6.12 another huge shell struck the Japanese flag-ship right in front of the bridge, whereon the Admiral, Captain Shimamura, Chief of Staff, the commander of the ship (Captain Ijichi), and five other officers were standing. Admiral Togo and his able staff officer were not struck, but Captain Ijichi and another officer were wounded slightly, and Lieutenant Fujise, the officer in charge of the signals, and a few men who were standing close by the chart room under the bridge were killed on the spot. For several minutes the gravest apprehensions were felt on the Admiral's account; happily he escaped without a scratch. There was great rejoicing on board when it was learned that the Commander-in-Chief had been spared. It was a very narrow escape. Some time after this, the Admiral yielded to the strenuous representations of a number of his officers, and allowed himself to be placed in the conning tower.

A few minutes after the "Tsarevitch" was struck by one of the "Mikasa's" 12-inch shells, she was seen to list heavily to port, and then to swerve round to starboard as though she had lost steerage way. A little later she recovered her equilibrium. In the meantime the "Retvisan," "Pobieda," and "Peresviet," continuing to take their course from the flag-ship, also circled to starboard. The enemy's battle-ships and cruisers were now devoid of all semblance of order, and for a moment or two the "Pobieda" and "Peresviet" seemed likely to ram each other. And they probably would have collided had not the "Sevastopol" and "Poltava" sheered off and so mitigated the confusion somewhat. Not more than 3,750 or 3,800 yards separated the "Mikasa" from the "Sevastopol" at this time; and owing to the way in which the Russian ships were huddled together, this was approximately the range of all the vessels. More than once the smoke of the exploding shells interposed a friendly screen between the hostile ships. At 7 o'clock Togo was further reinforced by the arrival of a second-class battle-ship and two coast-defence vessels. This more than offset the numerical disadvantage under which Togo opened the engagement, as with his additional reinforcements he was able to bring the concentrated fire of twelve ships against Rear-Admiral Ukhtomski's ten. (Prince Ukhtomski succeeded to the command of the Russian squadron upon Admiral Vitgeft's death.) Several of his ships suffered very heavily, notably the "Retvisan." The "Pobieda" lost both her masts, and the "Askold" was holed between wind and water, while one of her funnels was shot away and a gun was dismounted. At 8 o'clock, under the kindly protection of a waning light, the enemy broke and fled, the "Peresviet," "Poltava," "Retvisan," "Pobieda," "Sevastopol," and "Pallada" heading for Port Arthur, while the "Tsarevitch" and "Askold" (with a destroyer, the "Grozovoi") the "Diana" and the "Novik" found their way south. Admiral Togo, recognising the fruitlessness of a pursuit with his big ships, then signalled to his destroyer and torpedo-boat flotillas to hang on to the retreating foe and harass them in every way possible. Two or three attempts were made to



torpedo the fleeing vessels, but the result (which may doubtless be accounted for by the blackness of the night, and all accounts agree that the night was as black as pitch) was not striking, although there is reason to believe that the "Pallada" was hit once by a torpedo discharged by the destroyer "Murakumo." The "Pallada" succeeded in re-entering Port Arthur on the 11th. The "Tsarevitch" managed to make a neutral port in Kiaochao Bay, where she arrived on the morning of the 12th in a terribly battered condition. Three destroyers also took refuge in the German port. The naval ensigns of these war-ships were hauled down in the presence of the Governor-General of the German Colony on the morning of the 22nd August, when the breech mechanism of the guns was removed. The "Askold" and the 28-knot destroyer "Grozovoi" found an asylum at Shanghai, where their arrival on the afternoon of the 13th gave rise to much excitement, fear being entertained that the Chinese authorities would be powerless to enforce the neutrality of the port; the "Diana" reached Saigon on the 24th; and the "Novik," true to the glorious reputation won in antecedent stages of the conflict, successfully steamed half-way round Japan, and put into Korsakoff in Southern Saghalien, on the 19th or 20th. She was evidently trying to get through to Vladivostok by way of La Perouse Strait. The protected cruisers "Tsushima" (3,420 tons, carrying six 6-inch guns) and "Chitose" (4,750 tons, two 8-inch, ten 4-inch guns) caught her just outside Korsakoff Bay on the 20th; game to the last, the "Novik" fought the "Tsushima" until disabled, and then ran back, not before piercing the Japanese cruiser twice. During the night her captain ran her ashore, and there the "Chitose" found her early on the 21st and riddled her into unserviceability. The crew escaped from the ship as soon as she touched shore.

Only darkness saved the Russian fleet from either complete destruction or absolute surrender. The ships had lost all pretence of battle formation, and were more or less at Togo's mercy. Most of them were much damaged by gun-fire. Some of the Japanese ships passed through the severe ordeal scathless. The flag-ship, against which the Russians seemed to pour forth all the vials of their wrath, suffered much more than her consorts. Four officers and 28 of her men were killed, and 88 were wounded. The first-class cruiser "Yakumo" lost 12 killed and 10 wounded; the "Nisshin" 16 killed and 31 wounded; while the "Kasuga," "Chinyen," "Idzumi," and "Asahi" had 11, 6, 1, and 2 men wounded respectively. A shell struck the destroyer "Asagiri" and killed a warrant officer and 8 men; torpedo-boat No. 38 lost a man, and had 7 men wounded, while No. 28 had a sub-lieutenant seriously wounded. None of Admiral Togo's ships were so seriously damaged as to be unfit for immediate service outside Port Arthur, whither, indeed, most of them returned on the 11th to resume the work of the blockade.

Although the final part played by the Russian Navy in connection with the siege cannot be said to have seriously affected the military situation on the peninsula, the war-ships which took refuge in Port Arthur after the abortive attempt to break through the cordon of Japanese vessels in August continued to be an object of considerable attention on the part of the Commander-in-Chief long after all immediate interest in the battle of the 10th August had died away. Indeed, it was not until 203 Metre Hill fell into his hands on the 5th December, and full use had been made of the peculiar advantages

of the height for the direction of gunnery that the war-ships ceased to be a part of the defences of the great fortress. Until they were destroyed, not only were the battle-ships and cruisers, crippled though they were, a menace to the blockading squadron, on the efficiency of whose preventive work in some measure depended Nogi's ability to crush the defence, but they constituted so many movable forts and arsenals. Small wonder, therefore, that much anxiety was shown when the capture of 203 Metre Hill gave the besieging forces a view of sections of the harbour which had previously been hidden, to determine the fate of the great ships beyond the possibility of doubt. That the seizure of this hill materially affected the safety of the harbour is shown by the fact that as soon as the Japanese gunnery officers set up an outlook on its summit, the big howitzer batteries sunk four battle-ships, two cruisers and a gun-boat. These were the "Retvisan," "Pobieda," "Poltava," and "Peresviet" (battle-ships), "Pallada" and "Bayan" (cruisers), and "Gilyak" (gun-boat). The "Sevastopol" succeeded in placing herself out of reach of the guns by leaving the harbour on the morning of the 9th December and anchoring outside, under Chengtoushan. One of the staff officers told me on 11th December that, as 203 Metre Hill had been secured as a place of observation and offence, and the war-ships had been disposed of, there was no immediate hurry to force Stoessel's hands. Admiral Togo paid a flying visit to General Nogi on the 20th December in order to go out to 203 Metre Hill and satisfy himself by personal observation that the remaining ships of the fleet, which had been successively commanded by Vice-Admiral Stark, Admiral Makaroff, Admiral Vitgeft, and Rear-Admiral Prince Ukhtomski, need not be seriously considered any further. The Admiral, who is a quiet, unpretentious man of small stature, came and went so quickly and with so little fuss, that not half-a-dozen outside of Head-quarters knew anything whatever about the visit until it was all over; but when the hero of many great fights stepped down from the train at Dalny to return to his ship, he knew for a certainty that he need hesitate no longer to return with his main squadron to Japan to repair and refit.

The Russians took advantage of the departure of the fleet on the 10th August to send a destroyer (the "Resitelni") across to Chefoo with despatches, etc. She left Port Arthur on the night of the 10th, and, aided by the darkness, succeeded in reaching Chefoo, not without being chased by two Japanese destroyers, the "Asashio" and "Kasumi." Her whereabouts being discovered on the 11th, the destroyers remained outside Chefoo to intercept her when she put to sea. At night the Japanese destroyers steamed inside the bay, and ascertained that the "Resitelni" had not only not been disarmed, but that she had coaled. They returned at three o'clock the following morning. A lieutenant and ten petty officers and men of the "Asashio" were then sent on board the enemy's destroyer with a message to the commander. This message stated that as the 24 hours for which he was entitled to enjoy the protection of the neutral port would expire at 4 a.m., he was offered the alternative of either putting to sea at that time or surrendering; and the commander was further informed that if he refused to adopt either course the Japanese would take such steps as seemed necessary. The Russian commander peremptorily refused these terms, and gave orders to his men to prepare to blow up the vessel. Finally he seized Lieutenant Terajima, of the "Asashio" and sprang into the sea with him, another Russian at the



same time gripping the Japanese interpreter and jumping overboard. The crew then threatened to use force, but before anything else was done an explosion shook the vessel from stem to stern, killing one of the Japanese petty officers and seriously wounding several of the men. Upon this the Japanese destroyers seized the vessel and took her in tow to the naval base.

Although none of the larger war-ships left the harbour for several days after the naval battle (the "Sevastopol" steamed out on the 23rd August to bombard the Japanese lines, but ran foul of a mine and had to put back), the destroyers continued active. Two of the latter came to grief the following day, one being sunk by a mine two miles east of Lao-ti-shan, while the other was compelled to return to harbour badly damaged. A week later Rear-Admiral Gregorivitch sent out a flotilla, including four special mine-clearing vessels. During the operations one of the latter struck a mine and went down. For a long time submarine mines continued to be the principal source of danger besetting the vessels of either belligerent. Another terrible disaster of this kind befell the blockading squadron on the 18th September. The cruiser "Heiyen," a powerful little vessel of 2,000 tons, captured from the Chinese, and carrying one 10-inch, two 6-inch, and a number of smaller guns, ran on a mine in the neighbourhood of Pigeon Bay and sank in less than five minutes. She had been covering an advance of the right wing, and was on picket duty when the disaster overtook her. Only four of her crew—two petty officers and two bluejackets—were saved. These managed to reach one of the small islands, where they were picked up by the "Saiyen." Captain Asaba and all the officers and 182 men perished. This heavy loss of life is explained by the fact that the disaster occurred in stormy weather. Two of the boats were lowered, but they immediately capsized.

Early on the 15th November another attempt was made to run a destroyer through the blockading lines, advantage being taken of the severe snowstorm which set in during the night of the 14th. The destroyer "Rotstoropny" was selected for the work. This time also the Russians were successful in eluding the vigilance of the Japanese cruisers and destroyers, and the daring little craft entered Chefoo harbour in safety at 7 a.m. on the 16th. After landing its despatches the commander returned on board. Meantime Captain Chen, of the Chinese cruiser "Haiyung," boarded the destroyer, and an officer of the American cruiser "New Orleans" also went on board; but the Russian officers refused to give any information beyond the fact that they had come from Port Arthur. Shortly after the commander's return, preparations were made to blow up the vessel. It was at first stated that the plan was to disarm the destroyer, and let the Chinese authorities intern her until the termination of hostilities; but the Russians apparently altered their mind, as they ultimately blew her up and sank her. Before this took place, however, the Taotai of Chefoo lodged with the Russian Consul a demand for the removal of all arms and ammunition to the Chinese cruiser in port. He further insisted that all the "Rotstoropny's" officers and crew should give themselves up on board the said cruiser, and take the customary oath not to participate further in the war. These conditions were accepted by the Consul, who agreed that they should be complied with during the night of the 17th; but the commander evaded the difficulty by destroying his vessel.

Several foreign craft were overhauled and captured from time to time by ships of the blockading squadron; on one occasion a fleet of 26 Chinese junks being caught in an attempt to convey fresh provisions to the beleaguered garrison. On the 19th November the steamer "Veteran" was captured with a cargo of blankets, clothing, medical supplies, and salted meat.

At the end of November another Japanese ship fell a prey to the enemy's floating death-traps—the cruiser "Saiyen," of 2,300 tons, carrying two 8·2-inch guns, one 6-inch, and eight Q.F. guns, striking a mechanical mine off Port Arthur. She sank almost immediately. Thanks to the gun-boat "Akagi" being near by, most of her crew were saved, only 38 in all, out of 228 who were on board, being lost. Captain Tajima was amongst the number who went down with the unfortunate vessel, which, like the "Heiyen," fell a prize to Japan during the war with China.

Several torpedo attacks were made on the "Sevastopol" in December. Two attempts were made to torpedo her during the night of the 11th, shortly after midnight, but such a hot fire was opened upon the flotillas that neither was successful. The attack was renewed the next night, with no better result, two of the boats that took part in the first attempt, led by Lieut.-Commander Arakawa, being struck by the battle-ship's shells and compelled to retire under tow. The battle-ship was prepared for an attack, having a line of booms down in addition to torpedo-nets. The next attack was made at 6 a.m. on the 13th, under command of Lieut.-Commander Seki. Some of the boats failed to get within striking distance, owing to the glare of the search-lights and the activity of the shore batteries, but two managed to get to close quarters and fired their torpedoes. One of the missiles exploded and threw up a great column of water, but it is doubtful if it struck the ship. Both torpedo-boats were hit, one of the shells wounding three men.

During the small hours of the morning of the 14th, two more flotillas, each consisting of three boats, ran in on the same dangerous enterprise, under command of Lieut.-Commander Otaki and Lieutenant Miyamoto this time. Heavy snow was falling outside, and the first-named officer was unable to get within sight of either the "Sevastopol" or the "Otvajny." The "Otvajny," with a transport, was anchored close in shore under Mantoushan. Lieutenant Miyamoto was more fortunate, being aided to some extent by the skill with which the Russians on shore kept their search-lights on Lieut.-Commander Otaki's flotilla. With three torpedo-boats he ran close enough in to attack at four o'clock. His own boat torpedoed the "Sevastopol," while Lieutenant Nakamuda's singled out the transport. The third boat, commanded by Lieutenant Nagata, who, it will be remembered, was on board the "Yedo Maru" during the third blocking expedition, was sunk by the battle-ship, and not one on board returned.

Reconnaissances made during the day showed that the "Sevastopol" still held out. Like a lion at bay, robbed of its consort and sorely crippled, the patched and battered ship proved herself well worthy of bearing a name that carried men's minds back to the Crimea and another great siege. Accordingly, plans were made to renew the attack when night set in. Six flotillas took part in this attempt to dispose of the last surviving efficient unit of a once mighty fleet. About midnight on the 14th one flotilla, under Lieut.-Commander Uchida, ran into the enemy's anchorage mainly to reconnoitre. The



search-lights and guns of the shore batteries showed that there was not the slightest likelihood of any flotilla being able to surprise the enemy, and the boats were unable to make an effectual attack. Two of the torpedo-boats were hit by shells, and in one boat three men were wounded. Between two and four o'clock the following morning (15th December) five flotillas steamed into the bay under Cheng-tou-shan. These were in charge of Commander Kasama, and Lieut.-Commanders Jinguji, Otaki, Seki, and Kawase. The plan agreed upon was that Commander Kawase's flotilla should lead the way in order to divert the enemy's attention, while the other flotillas ran in and torpedoed the ships. Different lines of approach were agreed upon by the commanders, so that if one failed in one direction another might drive a torpedo home in some other part of the doomed ship. In face of a fierce fire from the shore batteries and occasional shots from the "Sevastopol" herself, the torpedo officers gallantly forced their way. One or more boats of each command succeeded in approaching near enough to discharge torpedoes, several of which exploded, whether alongside the ship or at the nets and booms could not be accurately ascertained. One of the flotillas, namely, that commanded by Lieut.-Commander Otaki, made a particularly daring attack. Each of the boats got within a short distance of the ship, and from each in turn a torpedo was seen to plunge. In retiring, the boats had to run the gauntlet of a number of guns. One boat was struck repeatedly, the lieutenant in command and five men being killed, while her engines were disabled by another shell. Lieutenant Nakahara thereupon steered round to her assistance, and endeavoured to tow her out of danger. No sooner had the tow-rope been secured than it was severed by a shell, and a minute later another shell hit the boat towing and killed a bluejacket. Shot and shell were now falling about the two little craft continuously, and Lieutenant Nakahara decided to rescue the survivors and leave the boat to her fate. This was done, and the damaged boat soon afterwards went down. Lieut.-Commander Kawase's flotilla of four torpedo-boats also suffered, shells striking the commander's boat, killing two of the crew, and wounding a lieutenant and two others, while Lieutenant Shono's boat was so badly damaged that she had to be taken in tow. A man was killed on board the latter boat, and five men were wounded.

The final attack was made on the night of the 15th, when there were some of the enemy's torpedo-boats, as well as the gun-boat "Otvajny," under Cheng-tou-shan, to share with the "Sevastopol" the brunt of the blow. On this occasion, also, the dauntless assailants were assisted by the weather, as heavy snow fell during the night, and a search-light is of very little use in a snowstorm. Two flotillas participated in this attack, commanded by Lieut.-Commander Seki and Lieut.-Commander Ezoye respectively. Lieut.-Commander Seki's boats reached the enemy's anchorage at about 4.30 a.m., and dashed in between the "Sevastopol" and "Otvajny," launching their torpedoes right and left. Each torpedo struck and exploded. One of the Russian torpedo craft opened fire on the boats, but did no damage to speak of. Throughout the attack the ships and two of the forts kept up an incessant fire. The other flotilla then steamed in. As the boats swept by each fired a torpedo at the ships, and shots were exchanged with some of the enemy's smaller craft. Two men were killed and two wounded on the attacking boats. Lieut.-Commander Ezoye's own boat was the last to advance, having been delayed by some hurried

repairs just as she was about to start. Running boldly in to where the "Sevastopol" was anchored, going close enough to hear the men on board talking, she torpedoed her. Unfortunately the intrepid officer paid the penalty of his boldness with his life, a shell cutting him completely in two. His boat, however, returned to the base in safety. Admiral Togo, in reporting these operations to the Imperial Military Headquarters, dwelt with regret on the fact that, in spite of the determined attacks, night after night, and the large number of torpedoes that were seen to explode, "the injuries done to the enemy's vessels" could not be ascertained at the time of writing. He added that one of the watch towers had reported that one of the enemy's destroyers could be seen lying on the beach in a derelict condition, "her hull and propeller showing at ebb tide." In a later report the Admiral expressed the opinion that "at least one of the torpedoes" struck the "Sevastopol" on the night of the 15th, "as early on the morning of the 16th the crew of the vessel were observed to be in great confusion, and were pulling a hawser from the land." The report further stated that the torpedo struck on the port side astern, damaging "the riveted seams of her armour plates . . . to an extent of 8 feet"; that she was lying with her bow seaward, her stern resting on the bottom; that the muzzles of the guns on the main deck were almost touching the water on the starboard side; that three of the aft lower deck windows were immersed; and that a torpedo-boat, a pumping-ship, and what appeared to be a mine-laying vessel were standing by assisting." The body of the hull of the "Sevastopol" was not protected with netting, but there was netting attached to her lower yard, which was placed crosswise in front of her bow. At a point about 30 or 40 feet ahead there was placed a boom, constructed of rectangular logs three feet in length, fastened with iron chains and covered with netting. Admiral Togo steamed in one morning to take personal observations of the stout old battle-ship. He found her lying in shallow water, with a list of 10° and bows depressed, about 430 yards off the foot of Cheng-tou-shan. Her crew were pumping out the damaged part. In view of the condition of things in Port Arthur, no hope could be entertained of repairing her, said the Admiral, adding: "It has, therefore, been clearly established that the battle-ship has nearly lost both her fighting and navigating capacity." Her redoubtable commander, Captain von Essen, who, like Togo himself, is a sturdy man of small stature, a typical seaman, could not have summed up his ship's condition more carefully, for in truth, she had "nearly lost both her fighting and navigating capacity." A few hours later the "Sevastopol" was taken out some distance—as near as possible to the spot where the "Petropavlovsk" disappeared—and was there sunk by Captain von Essen in deep water.

This brings us virtually to the end of the Navy's share in the siege operations. A week after the final attack on the "Sevastopol," the Commander-in-Chief of the combined fleet briefly reviewed some of the more striking events of the investing and blockading operations. After paying a well-merited tribute to the "strenuous and persistent efforts of the investing Army, to whose valour and courage" (the silent Togo permitted himself to say) "no parallel can be found in history," the intention to withdraw a portion of the fleet was announced, and the work of the previous seven and a half months thus summed up:—



“During the enforcement of this long blockade (since 1st May), there have been incessant dangers from the enemy’s mechanical and floating mines, as well as perils due to the heavy seas and dense fogs. At first we lost the ‘Miyako,’ ‘Yoshino,’ ‘Hatsuse,’ and ‘Kaimon,’ and later the ‘Heiyen’ and ‘Saiyen.’ Not a few loyal souls have been lost, but fortunately we have been able to maintain the blockade, frustrating the enemy’s occasional attempts at sortie. And, finally, through the powerful co-operation of the investing Army, we have succeeded in almost entirely destroying the enemy’s fleet in this quarter, while a severe blow was dealt to his Vladivostok Squadron by our Second Fleet, thus preventing that squadron’s reappearance on the high seas. In recording these results, we can but be convinced, more profoundly than ever, of the greatness of the power of H.M. the Generalissimo’s illustrious virtues. I deem it a duty I owe to all concerned to put on record that during these months all the detachments placed under my command have, each in its peculiar capacity, acquitted themselves to my complete satisfaction. The same has to be said of the blocking parties engaged in the forlorn hope of sealing the entrance to the harbour, of the special sweeping flotillas which dragged for the enemy’s mines in the face of danger, and of the men placed in the advanced watch-towers, who, exposed to the enemy’s fire, kept watch over his vessels, all rendering the special services required of them, which have contributed greatly to the maintenance of the blockade in those waters.”

Now, with reference to the lessons of the war—of which, in a very real measure, Port Arthur may be said to have been a pivotal point just as it focuses the causes of the war—it seems to me that the most important, and at the same time the most valuable, one to this country lies in the demonstration of the power of a Navy to say when oversea military operations may and may not be undertaken. If Admiral Togo’s work before Port Arthur proves anything beyond the fine prowess and superb nerve of Japanese officers and seamen, it establishes what I assume to be a fact: that the success of any campaign where the theatre of war is in a country with an extensive seaboard can be neutralised, if not frustrated, by the Power which holds command of the sea. The world has heard much more of the operations ashore than of those afloat, not unnaturally, the correspondents on whom the Press relied in some measure for intelligence of the progress of operations, having been denied the privilege of witnessing the Navy’s work. It is far from my intention to minimise or under-rate the bearing of the land operations—their value is obvious—but I do say that neither Nogi nor Oku, neither Kuroki nor Nodzu would have gained such laurels had Togo failed outside Port Arthur. I may be told that I am over-stating the case, inasmuch as transports packed with troops were despatched from Japan long before the question as to the command of the sea had been decided. It is quite true that troops were landed in Corea at the outset, but it must not be forgotten that the transports were convoyed by a force of war-vessels capable of overwhelming the small contingent Russia was in a position to throw across their route. Many anxious weeks ran into months before the General Staff in Tokio felt warranted in venturing to despatch

transports across the Yellow Sea. Such ships as were sent to reinforce the first Army that moved northward from Chemulpo and Ping-yan to the Yalu had to creep cautiously along the Corean coast, and for a long time the route had to be patrolled and guarded by torpedo-boats and swift cruisers. Not until the middle of May, when three months—absolutely invaluable time—had been lost, was it deemed safe to disembark an Army on the mainland near the Elliott Islands. During that time the Russians reinforced the garrison, completed their defence works, which were in a perilously backward state, and replenished their stocks of ammunition and stores. The newspaper correspondents, with one or two exceptions, are very irate with Stoessel for what they are pleased to term in their abundant wisdom a disgracefully premature surrender. I have not taken that view myself, for reasons which, in my judgment, are unanswerable, so I cannot pretend to imagine the extent of the indignation which would have been aroused had the earlier attacks on the fleet been more successful, and opened a way for the investment of the stronghold in April-May, instead of July-August.

The naval operations have certainly afforded resistless evidence of the enormous value of the sea-going destroyer. The Japanese seem to possess an inherent fitness for torpedo work. They are quick, alert, what our naval men, I believe, call "smart," ever ready to detect openings, and prompt to convert ideas into action. Our distinguished Chairman, if my memory as a newspaper man does not fail me, was the first British officer of flag rank to perceive this, when serving as Commander-in-Chief of the China Squadron during the China-Japan War, more particularly during the attacks upon Wei-hai-Wei in January and February, 1895. Some months ago, in the course of a timely and instructive paper read here by Lord Ellenborough, R.N., several measures were referred to "for the purpose of securing our own coasts and harbours against surprise." I venture to suggest that one of the most effective, and at the same time most economical, methods would be to form definite and recognised flotillas of three or four destroyers (just as we have cruiser and battle-ship squadrons), assigning one flotilla to each of the chief ports of the United Kingdom, and entrusting the senior officers with the patrol of the coast in co-operation with the Coastguard. Even if nothing more were gained by the adoption of such a plan, unquestionably this much good would accrue: the officers and men would acquire expert knowledge of every cove, harbour, and haven—knowledge which might prove highly serviceable in time of stress—and would grow accustomed to joint and united evolutions. A possible foe contemplating a wild rush of some national surprise party anxious to emulate the successful deeds of our first Norman King, would then have to take into account numberless little naval bases dotted all along the coast, and many an out-of-the-way seaport which probably does not see the white ensign for years at a stretch would become familiar with its beauty and its import.

I suppose there are few who have followed the great naval events of the recent conflict who have not been struck with the decisive influence that steam and guns of high range must have upon the issue of the next epoch-making struggle for maritime supremacy. One of the lessons that Togo has given, I think, is that it is possible to manœuvre so as to keep at such a distance as to minimise the danger of excessive punishment, while at the same time holding the foe



within effective range. Doubtless it is true that not all fighting admirals would be content to keep their ships beyond the range of 6-inch guns, but granting the probability of the adoption of very dissimilar tactics, granting the probability of an attempt to get to comparatively close quarters, would the long-range gunners necessarily be at a disadvantage even then? Not unless the advantage of superiority of speed were thrown away by bad tactics, or the skill of the gunners failed with the shortening of the range, which is wholly unlikely. High-angle fire may not be so powerful as direct fire against a ship's citadel, but that it is sufficiently destructive to place the strongest battle-ship *hors de combat* is not open to question.

If I may indulge in that easy form of speculation which is generally held to possess no more value than an after-thought, I should like to advance an idea which may sound as presumptuous as it is visionary. I refer to the methods pursued for the bottling up of the Russian fleet, methods spread over a vital period of three months, and executed with magnificent daring and heroism. These methods involved the sacrifice of 14 large merchant steamers, and, in the end even, the object aimed at was but partially accomplished. Would it not have been better to have sent in the old but still serviceable turret-ship "Chin-yen" (now rated as a second-class battle-ship) with a crew just sufficient to work the protected armament and navigate the ship? In the light of the measure of success which attended the use of ordinary merchantmen, in view of the fact that most of these succeeded in making the mouth of the harbour, some actually penetrating the narrow channel between Golden Hill and Tiger's Tail before they were sunk, it is not at all unreasonable to assume that the "Chin-yen" would have had little difficulty in forcing her way into the channel. Had she been navigated that far it is almost certain her turret guns would have swept the shore batteries, and carried widespread destruction to many of the ships and much of the property within reach. Had such a vessel been sunk athwart the fairway the channel must have been effectually sealed, and it is possible that her destruction would have saved the "Hatsuse" and "Yashima." When great sacrifices have to be made in any case, it is usually the safest and the more economical course to take the boldest and most drastic measure at the outset.

We have heard much of real or alleged incompetency on the part of Russian generals, but I seriously question if any of the chief servants of the Tsar betrayed greater ineptitude than Vice-Admiral Stark, against whom scarcely a note of adverse criticism has been heard; yet his inaction, during the first few weeks of the war, his unmistakable unwillingness to risk a general engagement, probably cost his country more than the failure of any of the great leaders on land. Had Stark put to sea on the morning of the 9th February, when he still had five first-class battle-ships to pit against Togo's half-dozen, and fought his ships with spirit—had he had the grit to follow the Japanese fleet up after the hour's bombardment, and had he forced a general action at all risks, it is hardly likely that the result would have been so one-sided as all the subsequent engagements were, unless we are to suppose that incompetency and inefficiency reigned throughout the fleet. Even defeat, providing his ships carried some of the foe's ships down with them, would have been better than the helpless policy of waiting which was pursued. But the opportunity was allowed to slip away, and from start to

finish there was little or no initiative shown. A negative course commended itself to one and all the Russian Admirals, with the one exception of Makaroff. That Makaroff's death was a great blow to the defence cannot be gainsaid. It is worthy of note, that not one attempt was made by the fleet at Port Arthur to interfere with the passage to and fro of an almost continuous line of transports.

One more point calls for notice—the appalling destructiveness of submerged mechanical mines. It is a remarkable fact that infinitely greater mischief was wrought by these terrible weapons of offence and defence, the more terrible because invisible, than any other destructive agency. Prior to the recent war much was heard from time to time of the potential power of the torpedo and the submarine against battle-ships and heavily-armoured cruisers, but relatively very little was said, I think, of the floating contact mine. The part these fearful contrivances played in the war is perhaps the most noteworthy of all the methods of destruction that were called into requisition. Not only were the “Petropavlovsk,” the “Yenissei,” the “Boyarín,” and one or two other vessels on the Russian side destroyed by coming into contact with mines, but, as everyone now knows, the Japanese lost the “Hatsuse,” “Yashima,” “Saiyen,” “Miyako,” and “Heiyen” through mines also. Nor does this exhaust the list. I had it from Captain von Essen's own lips that his ship, the “Sevastopol,” was badly damaged by a floating mine on the night of the 23rd June when returning with the squadron from sea. She managed to make the harbour at daylight the following day, and by working day and night she was repaired in the course of six weeks. The “Sevastopol” was similarly imperilled on the 23rd August. This time the disaster overtook her about noon, when returning from an attack on General Nogi's left wing. On both occasions she was struck on the port side forward. With great difficulty she was taken back to port, where the repairs, which were rendered additionally difficult by reason of the constant bombardment, occupied almost three months. It is evident that far more havoc was wrought by these submarine mines than all the torpedo-boats and battle-ships put together. It appears to me that this is the most striking object lesson of the naval operations.

I am afraid I have trespassed too much on your patience to take up a question which was opened by Lord Ellenborough in the lecture to which I have already referred—the question of the dissemination of news. The question is really a most important one. It is too late to take it up fully now, but I must say that this country is indeed in a pitiable plight if it has to go to Japan for enlightenment in regard to Press laws. I am an enthusiastic admirer of most things Japanese, but there are a few things in which Japan is sadly behind, and one of those things is her Press regulations. Those regulations, which are not without some good features, would have been revised and made less illiberal long since had the editors of the country been above subterfuges. In other words, had the editors insisted upon acknowledging their responsibility instead of hiding behind “dummy” editors who obligingly and for a consideration undertook to bear whatever punishment might fall as a result of editorial indiscretion or editorial obstinacy, it is certain they would long ago have made such an outcry that the interpretation of offences would not have rested for many years, would not now rest, with one or other of the Ministers of State. Un-



doubtedly some regulations, some precautions are necessary here, but they can be effected without going back to the standard of the seventeenth century. I think, for instance, that legislation is desirable in the direction of fastening upon editors and proprietors of newspapers—and I speak as an editor and proprietor of a daily newspaper myself—full and unqualified responsibility for matter published in their journals. I would go farther: I would say that the time has come when to ensure due sobriety in the conduct of journalism such legislation is essential. Some measure authorising a particular Department of State to require production of the original despatch on which a given report is based would in itself exercise a salutary effect. As to the control of war correspondents, I confess I have little sympathy with Army and Navy officers who cry out about the impossibility of restricting the correspondent's power of mischief. To admit this is to confess incapacity. Correspondents are, or should be, subject to military discipline when in the field; and if an officer shrinks from dealing with an offender who deliberately seeks to circumvent the regulations and orders of the headquarters staff with reference to the despatch of intelligence, he is, to my mind—I am putting the matter bluntly—absolutely unfit for his post. Formulate reasonable regulations, exercise rigid care in granting passes, control the despatch of news to your heart's content, as the exigencies of the situation may demand; and *shoot* the first correspondent who wilfully disregards or violates their more vital features. Personally, I believe in the usefulness, if not the necessity of the correspondent, but he can do the more important part of his work despite what may appear to him to be vexatious and unnecessary delays. The wild eagerness of the daily journal for instantaneous news of great events is as often as not gratified at the expense of accuracy and truth. The war correspondent's watchfulness and criticism are often valuable to the nation, but it is high time that he was made to regard his presence with a fighting force as a privilege, and not as a right entitling him to set his judgment against that of a general in the field.

Commander W. F. CABORNE, C.B., R.N.R.:—We have listened to an extremely interesting paper in which the naval operations in connection with the siege of Port Arthur have been vividly placed before us in much detail. Perhaps what most strikes one with regard to those stirring events is the patriotism, devotion to duty, utter self-sacrifice, dogged perseverance, and brilliant strategy of the Japanese naval *personnel* under the command of the illustrious Admiral Togo. Many lessons may be deduced from the Russo-Japanese War, including the misuse, as opposed to the proper use, of a fortified harbour; but while the lecturer has specifically mentioned some of those lessons, he has omitted to inculcate a most important one, especially to ourselves, looking at the fact that the British Empire is not bounded by the coasts of the United Kingdom, and that is the necessity for possessing an efficient Army, capable of rapid and large expansion, and ready, in case of need, to follow up any blow that may be struck by the fleet.

Mr. SATORI KATO:—I think the lecture to which we have listened was a very admirable one. Mr. Curtis has well described to us the events that happened during the deplorable war in which we have been engaged; but he seems to me to have commented rather unfairly on the discretion of the Japanese authorities with regard to the Press laws.

I doubt very much if my countrymen were wrong in doing as they did at the time of such a national crisis as ours. All Governments clearly have a right to choose and discriminate for themselves with regard to whether important news shall be given to the public at once, or as to how long it should be withheld. Probably I did not hear all he said, but I understood him to say that such laws were rather a shame. We have our troubles and we legislate for them. If I am in England I am enjoying the liberties here under the protection of the British law, and I must rule my conduct by that law, and I am not inclined to criticise it. We very much feel our defects; during the campaign we knew more of them than anybody else, but we shall repair them without disclosure. I should be taken as very unpatriotic if I disclosed everything I know about those defects. Gentlemen like Mr. Curtis have done a great deal of good for us, but sometimes they only saw the superficial part of what was going on.<sup>1</sup>

Colonel W. G. B. WESTERN, C.B., *p.s.c.*:—I only wish to say that I had the privilege quite recently of seeing the Japanese dockyards at Sasebo and Kobe, and the courtesy which the officials displayed to me was something which I can never forget. One of the advantages arising from my intercourse with the Japanese was that certain little personal incidents were told me which may elucidate a few of the lecturer's remarks. For instance, during one battle everybody was struck with the extraordinary motions performed by the Russian Admiral's flag-ship; she began to steer wildly and go round in a circle, and the result was that the whole of the Russian fleet seemed to get out of order. The cause of that was not due to any particular damage done to the ship, but to the fact that the quartermaster, who had just acted on an order to put the helm over, was hit, and, falling over the wheel, jammed it. Otherwise the ship was undamaged at that period, and it was simply the human element coming in: it was the man jamming the wheel, and the impossibility of getting his dead body away for some little time, that threw the whole Russian fleet into confusion. I was told another thing about that self-same battle, which one would hardly credit—but my informant was a very good one—namely, that the flag-ship went out of Port Arthur without steam up in all her boilers. That is rather interesting, because one knows how battle-ships behave under such circumstances. If the Russian flag-ship acted in such a casual way, one need not be surprised at anything that happened. The lecturer also laid great stress upon the good work done by Captain Von Essen. It was my great privilege to meet Captain Von Essen. I saw a great deal of him, and I also at the same time saw a great deal of the other Russian naval officers. They all visited Ceylon, where I happened to be quartered at the time, and it was not only my own impression, but it was also the impression of almost everybody who saw the Russian naval officers, that Captain Von Essen towered far above any of the other Russian captains in capacity and in all the other points to which the

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<sup>1</sup>In the course of his address, Mr. Curtis suggested that a war correspondent in the future should be permitted full liberty, but that he should, if he despatched any news detrimental to the conduct of a campaign be at once shot. When the war is for life or death to a country, Mr. Curtis's suggestion seems to be *post hoc, ergo propter hoc*.—S.K.



lecturer drew attention, particularly in regard to smartness and alertness. That again shows how the personal influence of the captain of a ship has its effect in the training of the men. His officers were trained in a way in which none of the officers on any of the other ships were. Everybody who had to pay calls on the Russian ships noticed the sort of dulness that prevailed on the other ships, while on this little third-class cruiser, commanded by Captain Von Essen, there was an air of smartness and alacrity, and quite a different tone prevailed. That is where the personal element comes in.

Major-General Sir THOMAS FRASER, K.C.B., C.M.G. :—I did not intend to say anything, but as a soldier I am entirely in accord with Commander Caborne's remarks as to the necessity of having an efficient Army as well as an efficient Navy. I have the greatest admiration for Admiral Togo, whom I know personally, and for the splendid naval services that he and his officers and men have carried out, unsurpassed, as far as I know, in the history of the world; but at the same time, I think the great lesson of the war was this: that the Japanese, with supreme judgment, took into consideration all the moral as well as the material factors, and decided relatively on the strength of the naval and military forces that were necessary to success in the war. That they provided sufficient strength for the Navy has been proved by the results. Undoubtedly luck was against them in some of their losses; but in the balance their judgment with regard to the strength of their Navy proved to be correct. Their judgment with regard to the strength of the Army was less correct, because it is a fact that they had to multiply their land forces very considerably during the war itself. Without the local command of the sea their Army would have been impotent to secure victory, and the command of the sea without a sufficient Army would still have left Russia the command of East Asia. The lesson for us is this: We must not think that we can keep an Empire with a Navy alone any more than that we can keep an Empire with an Army alone. The only possibility of securing any great Continental Empire such as ours, that is united by the sea, is to have the necessary naval and the necessary military force to secure at once the command of the sea and the land. That, I think, is the great lesson we want to learn. We have oscillated about, and at one time have had relatively too much Army and too little Navy, and at another time have had too much Navy and too little Army. I do not say that we can within our needs have too much of either as long as we can pay for it; but we cannot pay for our armed forces any more than we are paying now. We have approached, if we have not reached, the limit of our expenditure, and what we now have to do is to use the wise judgment the Japanese have shown in duly dividing our financial resources between the Army and the Navy, if we want to keep the Empire that we possess. That is not apparently our present policy.

Mr. CURTIS, in reply, said :—I am very sorry to see from the remarks of one speaker, Mr. Kato, that what I said on two points was very much misunderstood. I think everyone who heard the lecture will agree with me that when I referred, for instance, to the loss of the "Yashima," and appeared to criticise the action of the Japanese Admiralty in withholding the information, I said: "This loss has not been reported, for reasons which will bear scrutiny." In view of that statement, it seems to me it is entirely a mistake to suppose that I was speaking here in criticism of the fact that the news was suppressed. I should also like to add that on that point the written lecture contains this statement:—

"The loss of these two fine battle-ships and one armoured cruiser in one day was a staggering blow to the Japanese Navy, and had the full extent of the disaster been revealed officially it is quite within the bounds of possibility that some of the subsequent actions would have taken a different course. In actual war, when affairs of supreme magnitude are being directed, there are times undoubtedly when a Commander-in-Chief, conscious of his ability to save the situation, even with sadly depleted power, is justified in keeping even his own countrymen in ignorance of the real extent of a disaster. Supposing this loss of the 'Yashima' had been publicly acknowledged, is it not certain that the knowledge of Togo's enormously reduced strength in battle-ships would have re-inspired, not only Admiral Vitgeft at Port Arthur, who at the time was busily repairing and refitting his battered ships with a view to another attempt to take the sea, but also the disheartened and discouraged authorities on the Neva?" With reference to my remarks about the Press, I do not hesitate to say that Mr. Kato has utterly misunderstood me. I have been in Japan running a journal for over fourteen years. I have been under Japanese laws and regulations for the last four or five years. I have had the pleasure—or the pain—of appearing three times before their Courts for alleged breach of Press regulations, and I am not aware that I have written a single word of unkind criticism with reference to the action of their judges. I by no means desired to appear to come here and criticise the Japanese Press laws; I should never have referred to the subject but for certain remarks recently made before this Institution by Lord Ellenborough and by several British officers, remarks which to my mind were rather misplaced and misleading. Most of them were remarks that would strike a resident in Japan with consternation, because they have nothing whatever to do with the suppression of news with reference to war operations. I contend that an efficient Army organisation has perfect means within its control for the suppression of undesirable news. I think it would be in the highest degree bad taste on my part if, after fourteen years' work as a journalist in Japan, I came here to criticise the Japanese Press laws. If my object were to criticise the Press laws of Japan, I should seek to accomplish it through the medium of my own journal. I simply said what I did on the subject by way of reply to the British officers who, a few months ago in this hall, spoke so favourably of laws which are not so perfect as they might be; and the Japanese editors, I am free to say, would support what I say on the subject.

The CHAIRMAN (Admiral the Hon. Sir E. R. Fremantle, G.C.B., C.M.G., Rear-Admiral of the United Kingdom):—The pleasant duty now devolves upon me of proposing a vote of thanks to the lecturer. I have not had the pleasure of hearing the lecture, and I feel that is my loss; but I hope to have the opportunity of reading it afterwards. I did see, however, some of the lantern slides, and I know how interesting they were to everybody. I should like, in proposing this vote of thanks, to make one or two remarks of a general nature, because I have been able to only skim some of the remarks made by the lecturer. I quite agree with what was said by Colonel Western with regard to the personal element, and about the difference between the various Russian ships. I have seen a good many of them; I have been close alongside several of them; I have been all over a great many of them, and I have known a great many Russian naval officers. The great majority of the ships I



always thought were decidedly indifferent; but I have come across some which appeared to me to be in splendid order, and I believe that with the intelligence and the knowledge which the captains evidently possessed, those ships would have been well fought. But they were decidedly the exception. Some years ago I went on board a Russian armoured frigate carrying an admiral, which was lying alongside me for some time. The captain of the vessel was shot by his servant not very long ago at St. Petersburg. Some of you may recollect his name, Vice-Admiral Nazimoff. The Admiral was on board my ship several times, and I showed him everything. He then said to me: "Perhaps you would like to see my ship." I replied that I should. I saw the captain was a little reluctant to show me over, and I did not wonder at it, because when I went round the ship I found that the state of cleanliness did not exist. I was particularly struck with the stolidity of some of the bluejackets who were sweeping up dirt, and who did not seem particularly to mind my seeing it. I have seen a little dirt sometimes on board our ships, I am afraid, and I have seen a bluejacket putting it out of sight; he generally stood in front of it and tried to hide it, knowing it was not the right thing. They try to keep it out of sight when any superior officer is looking round the ship. During the war between China and Japan I was in command of the British fleet in China, and I saw a great deal of the movements of the Japanese and a certain amount of the movements of the Chinese, for they did not move very much, and I was particularly struck with the admirable arrangements that were made by the Japanese. For instance, there was a fairly strong remnant of the Chinese fleet lying in Wei-Hai-Wei when the place was being attacked. The Japanese mostly lay in Ying-Shing Bay, which is just to the south-east of the Shan-tung Peninsula. They sent out a squadron every day, which was relieved by another squadron every evening, to blockade outside, and meanwhile they husbanded their resources. I also saw the splendid way in which the torpedo-boats attacked. I was very much astounded at the proficiency which had been reached by the Japanese, who, it must be remembered, had seldom acted in large squadrons before, and who might have been supposed to have been a little "green" with regard to the ordinary evolutions by squadrons. They signalled by the electric light at the mast-head, and had apparently managed to make all their arrangements very complete by not having more messages than were requisite. At the end of the war perhaps you will recollect there were three Powers which united to turn the Japanese out of Port Arthur, and it was expected that there might be fighting between the Russians and the Japanese. I knew the Russian Admiral very well. His squadron was decidedly stronger than the Japanese, and I should have thought that he would have gone into action, not exactly with a light heart, because that would not be the right principle, but with some degree of confidence, and I was very much struck, on having a little chat with him, to find that he was not confident of anything at all. He felt, in fact, decidedly anxious about it in case war should take place. I was very much astounded at that, and it showed me that the Russians at that time had very little confidence in themselves, that they were not very good sailors, and that they really did not know exactly how to handle their ships. I do not say that that may not have been exceptional, but that undoubtedly was the case. There was a lack of confidence and a lack of knowledge apparently amongst the Russians at which I was rather surprised, having seen some of their ships at all events in very good order. I make exceptions, as

Colonel Western did; but taking them altogether, there was a lack of that general efficiency which you would naturally have expected in a squadron that had been at sea a considerable time. You must also remember that the best part of the Russian fleet, in every possible way, certainly as regards efficiency, was in the Far East—what they call the Pacific Squadron. Then I should like to say one or two words about correspondents. I was just in time to hear a little of what the lecturer had to say on that point. I am afraid I am one of those naval officers who have a very small opinion of them, because I should not like many correspondents about on my ships; but I certainly should like to be able to censor their messages in every possible way if we had them. I cannot help thinking it is wiser to do as the Japanese did, namely, not to let correspondents know too much, because there is no knowing whether, even with the best intentions, even if they were perfectly loyal, and even if they thought they were giving no information to the enemy, some little information might not drop out; some little remark might be made which would be of advantage to the enemy. We know very well that even the smallest information may sometimes, to a practised hand, give information which is of the greatest value, and which may lead him to draw his proper conclusions. There is one other thing to which I should like to allude, and that is the great advantage you possess when you are able to get information. I believe the Japanese were exceedingly good at that. If I may venture to say so in the presence of the Japanese gentleman here, they are naturally a very inquisitive race; they carry that instinct into warfare with them. They take time by the forelock, that is to say, in peace time they get every information they can. They take a note of everything, and they give that information to their superiors. We in this country are rather apt to be easy-going in these respects. We do not always look about us as much as we might, and occasionally, I daresay, we give information which we ought not to give. I confess to a certain feeling that way myself. I am not inclined to be over-reticent, and sometimes we may say things that might be made use of. I think in that way we may take a lesson from the Japanese. I can only repeat my regret that I was not here at the beginning of the lecture. I wanted particularly to hear this lecture, because I wanted to hear what the lecturer had to say about the manœuvres which took place outside Port Arthur, and the management of the fleet generally; but, speaking from the information which is in one's possession, and from what one has heard and read in the papers, and what one knows generally of the conduct of the war, I can only say that I have the highest admiration for the way in which Admiral Togo managed his fleet; not only for the way in which he fought his fleet in the actions which took place, but for the way in which he husbanded his fleet. That is a very important point, and that shows the sailor. I remember taking part in a blockade a good many years ago with a foreign Power—the Germans—and at that time at all events I do not think the Germans knew exactly how to husband their fleet; that is to say, they tried to do impossibilities. They were very zealous, very hard working, very energetic, but they did not know exactly what their ships could do, and after a time my friend, the German admiral, found that his ships all required laying up, and that the officers and men were decidedly dissatisfied. I am happy to say that perhaps I did not try to do quite so much, and the officers and men under my command did not have a particularly easy time of it, but I am very pleased to think that although the blockade lasted ten months, so far as I can recollect—



memory is a little treacherous in these matters—none of our ships broke down, that is certain, and none of our ships were laid up, nor, so far as I know, was there any dissatisfaction among the officers and men under my orders. I only quote that as proving that you must know the customs of the sea—the secrets of the sea. It is no use having a lot of ships, manned by a lot of courageous men, if they are not sailors who do not understand exactly how they ought to be handled or what they are capable of. It now only remains for me to give, on your behalf, a vote of thanks to Mr. Curtis for his admirable lecture, and to repeat my apology to him for not having been here earlier.

## A GERMAN COLONIAL CAMPAIGN.

THE OPERATIONS AGAINST THE BONDELSZWARTS AND  
HEREROS FROM THE BEGINNING OF OCTOBER, 1903,  
TO 31ST JULY, 1905.

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*Compiled by the 2nd Bureau of the French General Staff.*

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Translated, by permission of the French Minister of War, from the  
*Revue Militaire des Armées Etrangères.*

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SINCE the latter part of the year 1903 the German Empire has been faced in its South-West African possessions with a very difficult task, in the suppression of the rising among the native population, a task which is not even yet by any means completely accomplished. The rising had its commencement originally in the southern portion of the Colony, and did not at first attract very much attention; but it rapidly extended to the region where the Germans had been expending their greatest efforts in the economic development of the country, with the result that in a few months the work of nearly twenty years' of strenuous effort was destroyed.

The first reinforcements sent out from Europe were powerless to make any impression on the revolt; to-day the sacrifices in men and money, which are being expended in stamping it out, have become very considerable, and the question is being discussed with some uneasiness in Germany, whether they are not in excess of the whole value of the Colony.

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German South-West Africa covers a surface of 835,000 sq. km. (374,000 square miles)—more than one and a half times the size of the German Empire—and extends from the Portuguese Colony of Angola on the north, to the border of Cape Colony on the south; in the interior the Colony is bounded on the east by the English territories of Rhodesia and Bechuanaland. The coast-line, which is low and with scarcely any indentations, stretches nearly 1,500 km. (937½ miles) between the mouth of the Cunene and that of the Orange River, and offers no shelter against the sea and wind, except in the two roadsteads of Swakopmund and Lüderitz Bay, neither of which afford either good or secure anchorage; the only good harbour on the coast being Wallfish Bay, lying a few miles to the south of Swakopmund, which belongs to Great Britain, and gives access to the two principal rivers of that region—the Swakop and the Kuiseb.



Some ranges of downs abut on this inhospitable shore, which become more defined inland, forming a series of terraces rising step by step to a region of high plateaux, some 500 km. (312½ miles) in width, bordered on the east by the Kalahari depression. This region of high plateaux, of which the axis parallel to the coast traverses the whole Colony from north to south, is the most healthy, the least barren, and the most populous part of the country. Nature seems to have protected the approaches to these uplands; the zone of from 75 km. (47 miles) to 150 km. (94 miles) which separates them from the sea is both sterile and waterless, and the only practicable roads giving access to them, where it is possible to depend on finding water, are those valleys and water-courses which convey the water during the rainy season from the mountains of the interior to the ocean.

In the northern portion of the Colony, the height of the plateaux does not exceed some 3,000 feet. The level country, remarkably flat and even, fertilised by the annual inundations of the Cunene, luxuriates in the rich vegetation of tropical countries. It is inhabited by an industrious and agricultural population, the Ovambos, of Bantu origin, who live in complete independence on both sides of the frontier.

To the south of the 20th degree of latitude, the country becomes mountainous, rising in steep walls between the 21st and 23rd degrees. The highest peak, Omatako, has an altitude of nearly 7,000 feet. The uplands generally reach a height of from 3,600 to 4,800 feet. It is the highest and most rugged portion of German South-West Africa, and it is also the most covered with vegetation. The rains which fall here from December to April keep the atmosphere sufficiently humid to permit the development of a brushwood, which grows often to some height, and is close set; grass also grows in abundance.

The pasturages of this region have attracted to them the Hereros, a conquering race of shepherds, who came from the north towards the end of the 18th century, and, like the Ovambos, are of Bantu origin.

To the south of the 23rd degree, the aridity increases and the appearance of the country changes; rocky and bare mountains, real fortresses, alternate with large sandy plateaux; the brushwood gives place to the desert. Inhabitants are scarce in a country where there is a lack of water and cultivatable soil; such as there are belong to different branches of the Hottentot family, and grouped in the least arid of these desolate wastes they eke out a miserable existence by means of their poor flocks.

On the high plateaux in the centre and south of the Colony there are great variations of temperature; during the day it is sweltering, while the nights are very cool. This coolness of the nights, conjoined with the purity of the air, allow Europeans to keep in good health.

It is chiefly the central territories which have attracted colonisation, on account of their close proximity to the best road for penetrating the country, traced out by the valley of the Swakop. The Hereros accordingly have found themselves more immediately in touch with officials, colonists, and traders; warlike and independent, they were the first to give the signal of revolt. It has been estimated that 6,000, out of a population of 60,000 to 80,000 souls, was the number of men available to take the field. Armed with breech-loading rifles of the

Mausers (1871) type or of English manufacture,<sup>1</sup> disposing of large supplies of ammunition, skilful shots with a thorough knowledge of a country marvellously suited to guerilla warfare, encouraged by the weakness of the troops stationed in the Colony, they believed themselves strong enough to drive out the Germans and regain the mastery of their homes.

It can be safely asserted that the mishaps which have occurred during the campaign were less the results of the race qualities and good armament of the rebels than the difficulties experienced in organising, disembarking, transporting, and revictualling the reinforcements successively forwarded.

The port of Swakopmund, the railway, finished in 1902, between Swakopmund and Windhoek — a distance of 382 km. (237 miles) — with the line of optical communication established between Karibib and Outjo, on the one hand, and Windhoek and Keetmanshoop, on the other, were each called upon to play an important part in the campaign which was to open.

Unfortunately the deficiencies of the port of Swakopmund<sup>2</sup> and the feeble capacity of the railway<sup>3</sup> had a very sensible influence on the course of operations, and led to very regrettable delays.

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Up to 1896 a succession of revolts, causing a good deal of bloodshed, had delayed every attempt at organisation. Nevertheless, successive Governors had succeeded by playing off the Hereros against the Hottentots, and *vice versa*, in avoiding a general rising. Colonel Leutwein, in particular, who was sent out in the beginning of 1894 by Chancellor Caprivi, with very moderate means at his disposal, succeeded in repressing the revolt of the Witbois, and by measures of clemency turned them into allies, who gave their assistance in suppressing the risings of both the Hottentots and Hereros.

From 1897 an era of tranquillity seemed to have opened for the Colony, and those who believed that the pacification of a country ought to be brought about by a humane policy rather than by the extirpation of the aboriginal inhabitants, naturally applauded the success of a Governor who took the pains to treat the natives with kindness and goodwill. One may ask, on the other hand, if the weakness of the forces at the disposal of Colonel Leutwein left him any choice as to his method of procedure, and if it was possible for him to rule by force alone, turbulent, brave, and powerful races.

<sup>1</sup> Up to 1888 there was no restriction on the trade in fire-arms; but in January of that year the sale was put under the control of the Governor. From that time on the Government has reserved to itself the monopoly of the sale of arms and ammunition, but it has been unable to put a complete stop to contraband traffic over the English and Portuguese frontiers.

<sup>2</sup> The pier at Swakopmund, finished in 1903, was constructed to receive from 200 to 300 tons a day; but the steamers could not get alongside it, so it was necessary to transport everything from the ships to shore by means of tugs and barges.

<sup>3</sup> Another line of railway connecting the Otavi copper mines with Swakopmund (570 km. = 360 miles) had been taken in hand at the moment when the insurrection broke out. Its construction has been continued during the war by financial help from the German Government.



However that may be, the success obtained during ten years of administration seems to have lulled the high officials of the Colony into a state of false security, and to have led them to ignore certain premonitory signs of an approaching rising—such as a manifest state of general discontent, meetings of the chiefs, a refusal to work on the part of the natives—to which towards the end of 1893 their attention was drawn by missionaries and the farmers who were in more immediate contact with the natives than the officials were. This optimism still continued even when, in October, 1903, a revolt broke out among the Bondelszwarts, a tribe of Hottentots inhabiting the extreme southern portion of the Colony; it was believed to be merely a local disturbance which would be quickly and easily put down.

The effective of the detached troops in the Colony amounted at that time to four companies belonging to the Protectorate Forces, and were distributed as follows:—The Headquarters Staff, with the 1st Company, at Windhoek; the 2nd at Omaruru; the 3rd at Keetmanshoop; the 4th at Outjo; a mountain battery quartered at Windhoek; and some hundreds of native police. The total strength of the Protectorate Forces amounted to 44 officers and 692 non-commissioned officers and men.

Some of the insurgents advanced on Warmbad, whilst others organised themselves in the Kara Hills. Captain von Koppy, who commanded the company at Keetmanshoop, which was the nearest to the theatre of revolt, marched as soon as possible on the rebels who were besieging Warmbad, compelled them to fall back on Sandfontein, where on the 24th November he completely defeated them. On the other hand, the commander of the district, Captain von Burgsdorff, at the head of a force of Witboïis, had dispersed by the 10th December the bands assembled among the Kara hills.

Not knowing how the rising might have developed, Colonel Leutwein sent south in November the 1st Company (von Fiedler) and the mountain battery, following them up at the beginning of December by the 2nd Company (Franke). There remained then in the north and in the central part of the Colony, at Outjo, only the 4th Company (Kliefoth), whose posts were dispersed over a territory of 150,000 square km. (60,000 square miles). Captain von Fiedler found the insurrection suppressed, and was able on the 27th December to conclude an armistice with John Christian, the Chief of the Bondelszwarts.

Suddenly the Governor, who had also proceeded to the south in order to judge the situation for himself on the spot, learnt that the Hereros, taking advantage of the weakness of the force left in their territories, had risen *en masse* on the 12th January, had attacked isolated farms, murdered their inhabitants, plundered the buildings and the crops, carried off the flocks and the arms, and cut the railway and the telegraph above and below Okahandja; it was a bolt out of the blue.

Fortunately, the Deputy-Governor, who had at last become alarmed at the threatening signs, had taken the precaution, some days before the massacres, to call out, as a matter of urgency, all Germans capable of bearing arms. The greater number—about 500—were able to get in time to their places of assembly and reinforce the weak garrisons they found there. The principal localities were very soon closely pressed by the insurgents.

A detachment under the orders of Lieutenant Boysen, detached from Windhoek for the relief of Okahandja, which was more par-

ticularly threatened, was cut to pieces on the 13th January. More fortunate, Lieutenant von Zülow, starting from Swakopmund, succeeded in reaching the place on the 15th January with a hundred reservists, and organised the defence.

At the first signs of the insurrection an order was sent to the gun-boat "Habicht," then cruising in Cape waters, to return immediately to Swakopmund, and at the same time to Captain Franke, with the 2nd Company, also to return north. On the 18th January a detachment of 3 officers and 81 men, with 5 machine guns, under the orders of Captain-Lieutenant Gygas, was disembarked from the "Habicht" and forwarded immediately by rail to Karibib, with orders to protect the road between that place and Okahandja. In the meantime the Company Franke, which had returned by forced marches<sup>1</sup> from Gibeon to Windhoek, relieved in succession, after a series of actions, Windhoek (19th January), Okahandja (27th January), and Omaruru (4th February). Nevertheless, in spite of all the activity displayed, the communications with the 4th Company, whose captain had been wounded on the 29th January in some fighting to the south of Outjo, remained interrupted, whilst the lieutenant in charge of the police district of Grootfontein was sharply attacked on the 18th of the same month at Otjirukaku; Gobabis was besieged, while some parties of Hereros, assembled in the Komas hills to the east of Otjimbingue, again menaced the railway. The arrival of reinforcements was urgently demanded.

The reliefs—226 officers and men—for the Protectorate troops were then *en route* to Swakopmund, which place they reached on the 3rd February; they served naturally as a reinforcement, and were sent on, as soon as they disembarked, to Windhoek.

In the mother country, steps were being taken to send out as soon as possible the units immediately available. On the 17th January the order was given for two battalions of Marine Infantry at Kiel and Wilhelmshaven to mobilise a battalion of four companies of 125 men each. Then, in default of a body of troops specially formed and organised in view of the defence of the Colonies, a call was made for Volunteers, in order to form from all branches fighting units which could be got ready for embarkation without delay. These Volunteers were selected with particular care. Only trained men of first-rate character and strong constitutions, with really good eyesight, and not weighing more than 70 kg. (11 stone) were accepted. The way the Hereros were armed, their military aptitude, and the mountainous nature of the country rendered the action of infantry alone of any good; but, on the other hand, the mobility of the enemy and the heat of the days in South-West Africa made it necessary to mount as far as possible the troops called on to fight. The Volunteers, provided with proper tropical khaki clothing, were armed as infantry, but were also supplied with cavalry equipments, and each man was also provided with two blankets, which were to be carried with the camp equipage in the water-proof cases on the wagons. No precautions rendered necessary by the climate and nature of the country were neglected; but the error was committed of waiting until their arrival on the scene of action before these elements, drawn from different

<sup>1</sup> Between the 30th December, 1903, and the 19th January, 1904, the Company Franke, which was mounted, covered 720 km. (450 miles) in 18 days; the last 300 km. (185 miles) in four days and a half.



branches of the Service, placed from the beginning under the orders of leaders devoid, for the most part, of any tropical experience, were organised or received their horses and equipments—were made, in fact, into proper fighting units. The horses, mules, and oxen for transport purposes, intended for their use, bought at the Cape or in the Argentine Republic,<sup>1</sup> were to be sent direct to South-West Africa. Events showed the inconveniences of this method of procedure.

The departure of the first reinforcements was effected with a commendable promptitude; the "Darmstadt," of the Lloyd Company, was able to sail on the 21st January, having on board, in addition to the Marine Expeditionary Corps, under the orders of Major von Glasenapp (4 Marine companies, 8 machine guns, a hospital company, and commissariat company), 60 men of the Railway troops, a detachment of seamen for the "Habicht," and Major von Estorff, who knew the Colony well. These reinforcements reached Swakopmund on the 9th February.

Up to then it had been necessary to maintain a strict defensive; it now at last became possible to march from Karibib by Omaruru to the relief of the Company Kliefoth, and clear the insurgents out of the Gobabis region.

In the order of urgency, Major von Glasenapp wished first to pacify the country to the north and south of the railway, considering that before engaging in the pursuit of the Hereros through the vast territories to the east of Windhoek, it was better to wait the arrival of the first convoy of horses announced for some time in March. He resolved, consequently, to move with three companies on Omaruru and more to the north, whilst the 4th Company and the detachment landed from the "Habicht" operated in the region of Otjimbingue. Major von Estorff, who had arrived by rail on the 11th at Karibib, commenced on the 12th the movement on Omaruru with the 3rd Company and two machine guns, when Major Glasenapp, who was getting ready to follow him, received orders to proceed to Okahandja; Colonel Leutwein, who had signed on the 27th January a treaty of peace<sup>2</sup> with the Bondelszwarts, having returned to Swakopmund by Port Nolloth and taken over the direction of operations.

He organised three detachments: the first, called the Western, formed by the 3rd Company of Marines and the 2nd of the Protectorate troops (Franke), under the command of Major von Estorff, was directed to restore communications with the 4th Company of the Protectorate troops (Kliefoth); a second detachment, called the Eastern, under the orders of Major von Glasenapp, comprising the Company (Winkler)—the reliefs for the Protectorate troops, already on the march since the 10th from Windhoek on Gobabis, and the 1st and 4th Marine Companies, received orders to drive the insurgents from the Gobabis district and prevent their taking refuge in English territory. The 2nd Marine Company was sent to Okahandja, in order to form the nucleus of a detachment called the "Principal." The landing company from the "Habicht" and the railway troops remained charged with

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<sup>1</sup> These purchases amounted during the first quarter of 1904 to 647 horses and 733 mules in Argentina, and to 1,310 horses and 420 mules at the Cape.

<sup>2</sup> The conditions were as follows:—1. To lay down their arms and the surrender of all ammunition and stolen property. 2. The surrender to the Crown of part of their territory.

the sole duty of maintaining order in the territories comprised between Karibib, Okahandja, and the Komass hills.

In the execution of the orders of Colonel Leutwein, the 1st and 4th Companies of Marines quitted Windhoek successively by two different routes on the 14th and 17th February; but owing to the impracticability of the route which the 4th Company was to have traversed, both companies reunited on the 19th, and the detachment, comprising two companies (not mounted), 5 machine guns, and 38 horsemen, moved in one column on Gobabis. The insurgents who were besieging that place did not wait but retreated towards the north. A combined movement between Major von Glasenapp and Lieutenant von Winkler, in order to surprise them at Kehoro, where they had been reported, came to nothing (25th March), in spite of the rapidity of the march of Glasenapp's detachment, which covered 98 km. (61 miles) in 42 hours. The Hereros had disappeared. Not being tied to any line of communication, having only one single care, that of finding water daily, they could move as pleased them, north, south, or west. "In this rough and wooded country," writes General von Francois,<sup>1</sup> "the movement of a column can be compared to that of a ship in a very heavy sea. As soon as the ship has passed, the waves close in on her again." Major von Glasenapp, who had reached the Ovingi region, Epakiro, Kanduwe, halted his troops and let them rest some days while awaiting information. He himself went scouting with 13 officers and 68 mounted men, of whom 8 were natives, towards Otjinene, in the valley of the Eiseb.

In the west, Major von Estorff, having left Karibib on the 12th February with the 3rd Marine Company and two machine guns, effected his junction on the 16th February at Omaruru with the Company Franke, and on the 21st, at Okawakua-jiwi, with the Company Kliefoth, until then isolated at Outjo. Then, learning that some important bodies of the enemy were assembled in the neighbourhood of Otjihinamaparero, he moved towards them on the 24th with all his mounted men (some 120 officers and men), 3 field guns, and 1 mountain and 1 machine gun.

But the Hereros, some thousand strong, offered a very stubborn resistance, and it was only after ten hours' fighting that they gave way, leaving in the hands of the victors some 2,000 head of cattle. On the 28th the "Detachment of the West" returned to Omaruru, where they remained until the 10th March, many of the men being much in need of new foot-gear, clothing, and equipment, which had all suffered badly.

To the south of the railway from Karibib to Okahandja some indecisive fighting had taken place at Lievenberg on the 16th February, and at Gross-Barmen, the 19th, between the Company Gygas and some bands of insurgents assembled in the Komass hills. These were defeated on the 4th March at Klein-Barmen, thanks to the reinforcements brought by the 2nd Marine Company sent from Okahandja and by the 5th Company of the Protectorate troops, formed by the first *échelon* of the first contingent of Volunteers, who had been disembarked on the 24th February; but the insurgents could not be dispersed, and they remained masters of the hilly strongholds, where they had collected.

On the 1st March the second *échelon* of the first contingent of Volunteers (6th Company) arrived in the Colony, as well as Colonel

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<sup>1</sup> *Militär-Wochenblatt*, No. 33, 17th March, 1904.



Dürr, Chief of the Marine Expeditionary Corps, and 60 men of the railway troops.

On the 9th March the 1st Company of the Protectorate troops and the mountain battery returned to Windhoek from the south, where now only remained one company (the 3rd—von Koppy).

On the 10th March, Colonel Leutwein had at his disposal on the Okahandja-Windhoek line a mountain battery and four companies (the 2nd Marine and the 1st, 5th, and 6th of the Protectorate troops). But these two last units were far from being ready to take part in operations which might take a long time; their horses had not yet arrived, their *matériel* was incomplete, and above all, they suffered from the want of cohesion, which is characteristic of improvised units. It is true, invested places had been relieved, and the railway was open, but the important point was that the Hereros still kept the field. Considering that 2,500 men, of which he could dispose, including reservists and landwehr,<sup>1</sup> were not sufficient to enable him to undertake a real active pursuit, Colonel Leutwein made a fresh demand on the home authorities for the despatch of further reinforcements, including 800 mounted men and two batteries. These were freely granted him. In spite of the opposition of the Socialists, the Reichstag voted a sum of six millions of marks in addition to the sum of 2,821,000 marks already granted, and preparations were made towards the end of March and the first days of April for the embarkation of 45 officers, 1,100 men, 1,200 horses, 12 guns, and 12 ammunition wagons, with 10 doctors, 15 commissariat officials, and 62 hospital nurses and bakers.

If the bad news received from the Colony on the 19th March was not of a nature to calm public opinion at home, it at least showed the urgent necessity of these reinforcements.

\* \* \*

In the course of his reconnaissance towards Otjinene, Major von Glasenapp had found no trace which would serve as an indication of any movement of the Hereros towards Bechuanaland. Certain reports having led him to believe, on the contrary, that the insurgent bands had turned again towards the west, he resumed on the 6th March his march in that direction; he hoped, moreover, to have reached by the 15th March the sources of the Eiseb and Black Nossob, and to be able to co-operate from there in the detached operations which Colonel Leutwein had assigned to him as his duty towards that date.

On the 12th March Major von Glasenapp, who was with the right column, reached Onjatu and gave orders to halt there to await the arrival of the second column, which had taken a somewhat longer route. It gave the troops three or four days' rest, and their leader wished to profit, as he had previously done at the end of February, by pushing a personal reconnaissance with his mounted men, in order to see if the Hereros were on the Waterberg or if they were still infesting the region to the west of Okahandja. He quitted Onjatu on the morning of the 13th with all his disposable mounted men of the right column—11 officers and 55 men, a machine gun, and an ox wagon escorted by 7 men on foot, carrying provisions, ammunition, and medical stores.

On the evening of the same day, drawn into an ambushade at Owikokcrero, in the middle of a thick brushwood, he lost in less than

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<sup>1</sup> Colonial reservists and landwehr to the number of 400 to 500, who kept garrison in the principal localities.

half an hour three-quarters of his effectives, and it was not till night that he succeeded with great difficulty in rallying the bulk of his detachment with only 1 officer and 13 sound men, bringing back 3 officers and 3 men wounded, and leaving 7 officers, 19 men, and a machine gun on the ground. It was a disaster, but it must be remembered that a similar reconnaissance on the Eiseb, with forces which were not sensibly superior, had been successfully carried out; that for three weeks the Germans had pursued the Hereros without once being able to get touch with them, and that at Owikokorero it was believed the enemy was in full retreat.

Major von Glasenapp, after having taken in his camp at Onjatu all the necessary precautions in case of an attack, awaited there his left column, which rejoined him on the 15th. A few days later he received from Colonel Leutwein supplies and some officers to fill vacancies. He was also informed that the "Principal Detachment" would not be ready to move before the 1st April. The organisation of this "Principal Detachment" had proved a work of great labour. The first convoy of horses or mules purchased in Argentina in order to mount the Volunteers and horse the Artillery arrived in due course on the 10th March, in the roadstead of Swakopmund,<sup>1</sup> but the difficulties of disembarkation<sup>2</sup> had not been sufficiently taken into account, or the slowness of transport along an insufficient line of delivery.<sup>3</sup> Then, when it was a question of harnessing or mounting the newly-received animals, it was found that they were half-savage, and had to be broken in. "The difficulty of organising the new units," wrote Colonel Leutwein, "under the existing conditions, must be taken into account. A number X of men drawn from all arms, and a number Y of horses not broken in to the saddle or for draught, do not suffice to constitute a company, and *a fortiori* a battery ready to go on service. The infantry cannot ride, the cavalry have had to practise their marksmanship, and it is only with difficulty that we have been able to procure the necessary equipment and saddlery, etc." This want of homogeneity completed the difficulties arising from the diversity in the nature of the guns at disposal, consisting of machine-guns of different systems, mountain-guns and field-guns of the 1873 model.<sup>4</sup> Lastly, two senior officers of the same rank, exercising their authority alongside each other; the one, Colonel Dürr, Chief of the Marine Expeditionary Corps; the other, the Commandant of the Protectorate troops and Governor of the Colony.

In brief, Colonel Leutwein, who counted on being ready by the 1st April, was compelled to delay his departure until the 7th of that month. At that date he had assembled at Okahandja:—

The Estorff detachment recalled from the Omaruru region, consisting of the 2nd and 4th Companies of the Protectorate troops, and 1st Company of Marines;

<sup>1</sup> The second instalment only arrived on the 5th April.

<sup>2</sup> The disembarking of the horses took 6 days.

<sup>3</sup> In February, 1904, the daily output of the line did not exceed from 250 to 300 hundredweight, transported in 5 or 6 trucks. In some parts of the line the locomotives could only draw one truck. In March the railway could scarcely provide for the needs of the troops. The carriage of private goods was suspended on the 19th March.

<sup>4</sup> The field guns of the 1896 model did not arrive until later.



The 2nd Company of Marines, and the 5th and 6th Volunteer Companies;

The 1st Company of the Protectorate troops, three batteries, and a detachment of field-guns.

Numerous reports had informed him that, as the result of the previous fighting, the Hereros, to the number of from 3,000 to 4,000, were grouped in the Onjati Hills, and occupied the environs of Ouganjira. He decided to move against them, in a single column, with the "Principal Detachment," whilst Major von Glasenapp attacked them starting from Onjatu.

This line of proceeding, imposed upon him without doubt by circumstances, could only give *a priori* very limited results; because it could not force a decisive battle on an enemy always ready to vanish as soon as they believed further resistance at the moment was useless, while it left them every facility for getting their cattle, their only means of subsistence, away as they pleased by the number of roads which remained open; it thus provided no possibility of making a success, and inflicting on the Hereros an irreparable blow. Moreover, the two assaulting columns were separated from each other by 80 km. (50 miles) of brushwood, so any *contre-temps* might prevent the co-operation being effected under such conditions. And this is just what happened.

"The communications were uncertain, often even interrupted between Okahandja and Onjatu. Conformably to instructions received, Major von Glasenapp began his movement on the 1st April without having been informed that Colonel Leutwein had deferred his own for seven days in order to complete the organisation of his troops. On 3rd April, Major von Glasenapp was, while on the march, attacked by surprise at Okaharui."<sup>1</sup> Allowing the mounted part of the detachment to pass on, the Hereros attacked the centre and rear-guard of the column, which was entangled in a thick brushwood and strung out to a considerable length.<sup>2</sup> It was only able to repulse the enemy after suffering considerable loss, and was obliged to fall back on Onjatu, where it bivouacked, in diminished strength, harassed and incapable of retaking the offensive. Decimated by typhus, it abandoned Onjatu on the 21st April, in order to rest at Otjihaënenä, on the banks of the White Nossob, from whence a message was sent to Windhoek for medical aid and necessary supplies. Since the 13th March, the column had lost 14 officers out of 22—a rate of 63 per cent.—of whom 8 were killed, 4 wounded, and 2 invalided; 188 men out of 476—39 per cent.—of whom 56 were killed, 18 wounded, 62 invalided, 8 dead from various diseases, and 44 ill with typhus; the new camp was, in fact, transformed into a hospital.

Whilst this lamentable odyssey of the Glasenapp column was taking place, the "Principal Detachment," under the personal command of Colonel Leutwein, was scarcely more fortunate. On 7th April, Leutwein, who had then completed his preparations, left Okahandja with 7 companies, 2 field batteries, a mountain battery, a machine-gun detachment and 50 Witboïis or Bastards.<sup>3</sup> In spite of

<sup>1</sup> Memo. on the Revolt in German South-West Africa, published by the Great General Staff.

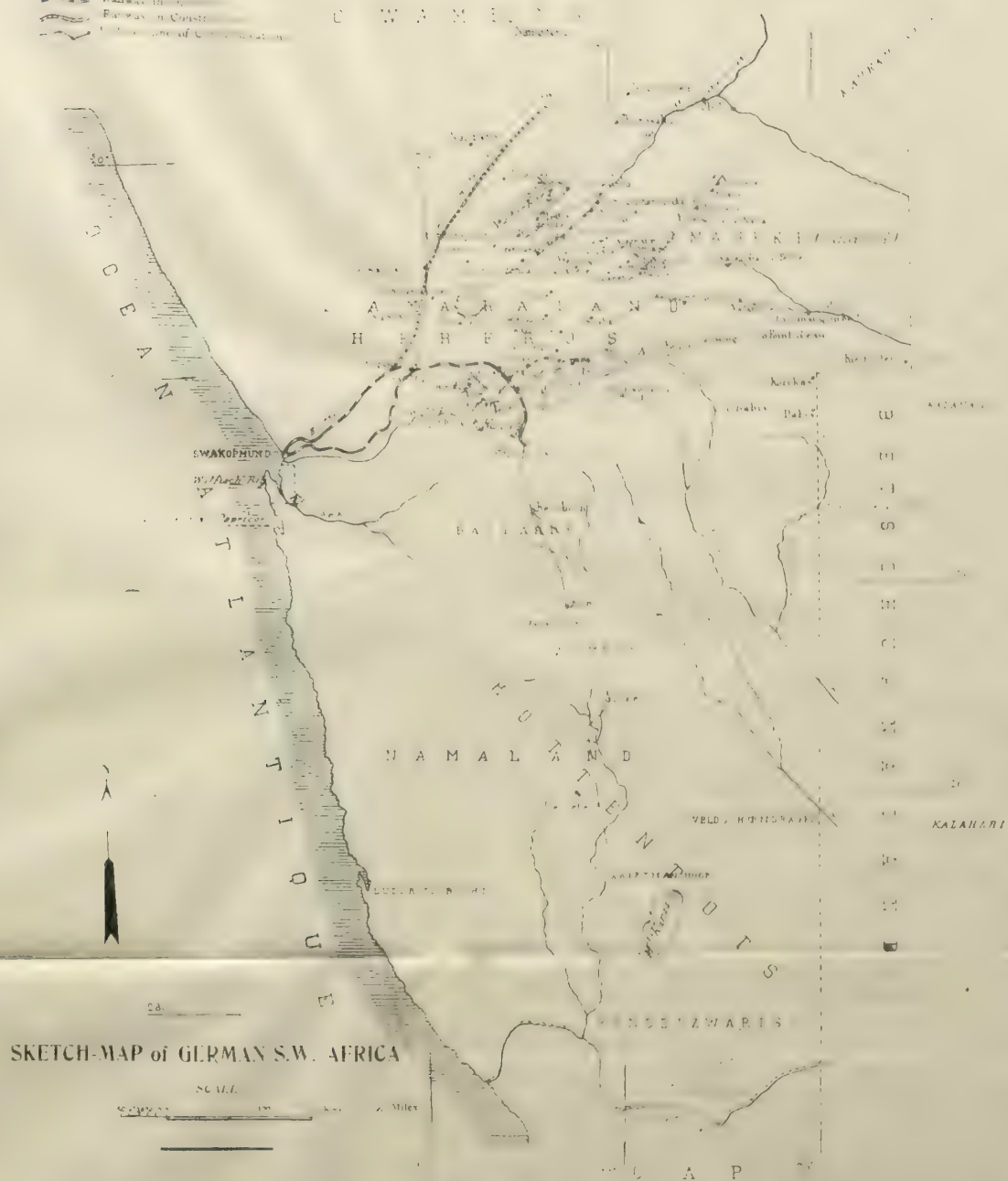
<sup>2</sup> The wagons carrying the various stores, drawn by 20 oxen, alone formed a column 2.5 km. (1.56 miles) long.

<sup>3</sup> 1,272 men, 600 horses, 400 mules, 980 draught animals, 450 animals for slaughter, 49 wagons, each drawn by 20 oxen and carrying 4 weeks' provisions.





EXPLANATION  
 Railway line  
 Railway in construction  
 Boundary of German Colonies



SKETCH-MAP of GERMAN S.W. AFRICA

SCALE  
 0 10 20 Miles

the difficulty of the water supply for so large a force, kept in one column, Colonel Leutwein preferred not to divide his forces, in order to make certain of being able to co-operate the same day, in the movement he intended to attempt against the important bodies of the enemy occupying the region to the north of the Onjati mountains. On the 9th he came into touch with the Hereros, who were reported to the number of about 3,000 at the west entrance to the Onganjira defile. Their line of defence, reaching from 5 to 6 km. ( $3\frac{1}{8}$  to  $3\frac{3}{4}$  miles) described a semi-circle of which the concave faced towards the west, the direction from which the Germans were advancing. Neglecting a part of their front, Colonel Leutwein attacked their left wing with the whole of his forces, it being the easiest to get at when coming from Otjosasu. Inspired by the success reported from Owikokorero, the Hereros made an energetic resistance, making in their turn vigorous counter-attacks upon the left wing of their assailants. Finally, after nine hours' struggle, their left wing and then their centre were broken, and they dispersed in all directions, leaving only a few cattle in the hands of the victors.

On the 13th, when Colonel Leutwein had ascertained the direction taken by the greater part of the fugitives, he moved in pursuit with the bulk of his forces, in the direction of Ovumbo, leaving, under a good escort, his convoy at Otjosasu. Surprised by the enemy some hours later, when marching through the brushwood, he was only able to free himself after 10 hours' fighting. "Short of ammunition, and unable to procure more, and finding the greatest difficulty in feeding his column, he had to fall back in the night on Otjosasu. The two last actions had clearly shown that he had to deal with a skilful and well-armed enemy. He became convinced that he had not sufficient forces at his disposal to effect anything decisive."<sup>1</sup>

In consequence of the demand made by Colonel Leutwein at the beginning of March, there were embarked on the 25th and 30th March, the 7th and 16th April, a second contingent of Volunteers under the command of Majors von der Heyde and von Mühlenfels, 3 batteries and the necessary *personnel* and *matériel* of the different services (medical, commissariat, railway, and wireless telegraphy). "It was feared," said the Memo. of the Great General Staff, "that these reinforcements would scarcely be sufficient to make up for the losses already sustained by fighting and disease, as fever and typhus were making havoc among the troops."

A number of people in authority in Germany had been from the first opposed to the policy of sending out troops in driblets; but being afraid of exciting public opinion, and of rousing ill-will in the Reichstag, attempts were made to send out by degrees all that Colonel Leutwein asked for.

The complete check in the last military operations, the duality of command that roused suspicion as to the sudden return of Colonel Dürr for "reasons of health," made people at last understand the necessity for adopting more energetic measures, and for constituting an Expeditionary Corps under the command of a man whose rank would assure him indisputable authority.

(To be continued.)

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<sup>1</sup> Memo. on the Revolt in German South-West Africa, published by the Great General Staff.



# PRIMARY CONDITIONS FOR THE SUCCESS OF CAVALRY IN THE NEXT EUROPEAN WAR.

*Lecture given before the Berlin Military Society by Lieut.-General  
von PELET-NARBONNE.*

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IF we would solve the question of the primary conditions necessary to ensure success for cavalry in a future European war, it is first of all imperative to find out what are the defects of this arm upon which are based the causes of the unsatisfactory results obtained in the different campaigns since the year 1813; what, on the other hand, are the improvements that have been made in organisation and training; and what methods of employment have led to success—in order then to form an estimate—aided by the extraordinary progress of the present day—how this arm may be made to achieve the best possible results? I would here remark that I shall at present avoid touching upon the subject of individual training, which has had so extraordinary an influence upon the success of cavalry, and I shall entirely confine myself to a consideration of organisation and tactics.

When the Napoleonic wars were over, Field-Marshal Blücher, in July, 1816, asked the following questions of a number of his most valued cavalry generals:—"Why has the Prussian cavalry not performed what was expected of it during the late campaigns against Napoleon, and how are the evident defects to be remedied?"

The Field-Marshal here states, as an incontrovertible opinion, that the results achieved by the cavalry had not been satisfactory, and this, too, in spite of the successes at Haynau, Luckau, at the Katzbach, at Roth-Nauslitz, Liebertwolkwitz, at Wachau in 1813, and at La Chaussée and Laon in 1814. The cavalry had certainly not done what was expected of it at Gross-Görschen, Wittstock, Dresden, nor to any extent at Dennewitz, during the pursuit after Leipzig, nor, above all, at Ligny. The incidents of this battle—where the Marshal in the thick of the fight was, as is well known, unhorsed—and in regard to which Blücher and other generals blame the cavalry—seem to have contributed in a great degree to the unfavourable judgment passed on this arm.

The officers questioned by Blücher, although considering the question from quite different points of view, came to the unanimous conclusion "that the reason why the Prussian cavalry had so signally failed to do what was justly expected of it was because the requisite numbers, both in the cavalry as a whole and even in the staff of squadrons and regiments were wanting; that they had never had any instruction, training, or practice in working in masses; and that further the cavalry of the Landwehr, brought together at a moment's notice, were of no use to give the weak Line cavalry the necessary accession of strength, while their—from every point of view—in-different performance made them a drag upon the Line cavalry."

It may here be mentioned that during the campaigns some of the Landwehr cavalry regiments melted away to a strength of only 100 horses—a fact which furnishes a general standard of the value of raw horses only brought into the ranks at the moment of mobilisation—and that the Landwehr cavalry thus became such a drag upon the Line regiments that the two were in some cases amalgamated, even involving the actual breaking up of some regiments.<sup>1</sup> It seems curious that one finds no hint in the opinions of the generals of any need for increased attention being devoted to training in reconnaissance, although already even on home service,<sup>2</sup> where the conditions were particularly favourable, the performances of the cavalry in this branch of their duty had been very unsatisfactory, and later on they had not even attained to the low standard which was then required in this particular. One misses, too, in the opinions expressed, any hint of a matter which is for cavalry of the first importance—the selection of leaders. And yet, the closer one studies those wars, the more does the importance of this question push itself to the front.

In the Napoleonic wars it is always the same regiments which we see adding to their reputations, while others are seldom, if ever, mentioned. The reason for this did not lie either with the troops or with the material, for if we examine into the root of the matter it will be seen again and again that the cause is to be sought in the personality of the leader. Yes, we cannot but admit that at times the inferior Landwehr cavalry did wonders under really good commanders. Thus Colonel Count Henckel at La Chaussée, with five weak squadrons, overthrew one of the celebrated regiments of Polish Lancers; Major von Falkenhausen—who had already, in 1813, distinguished himself as a partisan leader, when sent to the front at La Belle Alliance with a hundred troopers of a Silesian Landwehr cavalry regiment, defeated a hostile force four times his strength, broke through to the right and in the rear of the French, and returned with important information; Major von Blankenburg, surprised partly by his own neglect in 1815, in the town of Senlis, when only a portion of his Landwehr troopers had time to mount, still managed to drive back the superior numbers of the enemy, and pursued them through the town.<sup>3</sup> From this time, and from the teachings of later wars, it follows, as we shall see, that for cavalry more than for the other arms of the Service, the personality of the leader must turn the scale; all those who made the campaign of 1870-71 with the cavalry, will agree with me that a Seydlitz at the head of medium Landwehr cavalry, consisting of good men, would be able to make its superiority felt.

I rate the importance of personal influence for this arm so highly that I consider all else should give way to it, and that all that can be said or done to increase the importance of the mounted branch in future wars will be of no avail, if this essential requirement is neglected. It is the case that often with many men their powers develop in the face of the enemy, which, up to that time, have been afforded no scope or opportunity for display, while often, too, reputations are lost. It is quite certain that in the cavalry, level-headedness and the ability

<sup>1</sup>The idea underlying this most futile measure was that the insufficiently trained Landwehr should learn their work from the men of the Line.

<sup>2</sup>See Frhr. v. Freytag, "*Aufklärung und Armeeführung dargestellt an den Ereignissen der Schlesischen Armee, 1813.*"

<sup>3</sup>"*Napoleon's Untergang.*" By v. Lettow. Berlin, 1904.



to rapidly form bold resolutions, are far more required than in the other arms. The arc for a leader of cavalry seems to be that, when the full strength of manhood is unimpaired, when the will to *dare* is not yet over-influenced by the wish to *weigh*; and the leader of horse should be sought among men who still find pleasure in galloping across country. Tactical and strategical knowledge, with assurance, born of experience, in the leadership of the men placed under him, are further indispensable qualities, since youth and hard-riding of themselves are not enough. For this reason the idea, which now and again is brought forward, that, on mobilisation, vigorous young officers should, without regard to seniority, be put at the head of cavalry divisions—can hardly be carried out; the art of handling masses of cavalry can only be acquired by practice and experience, and when these are wanting—except in the case of a genius like Seydlitz—most of the chosen will be found deficient in self-confidence, and thus unfit for their position. The stir which Blücher made about the reports above-mentioned did not fall on fruitful ground: partly by reason of the poverty of the State, in part, because the men at the head of the Army were wearied out with the long wars, things remained much as they had always been. Two great cavalry manœuvres and the issue of regulations on the subject of leading, and on the proper use of cavalry masses had no abiding influence, and we shall see later on that even the campaign of 1870-71 found the Prussian cavalry in many respects not thoroughly trained for the work it had to do.

The European wars which followed offer nothing of particular interest for our consideration—chiefly by reason of the local conditions, etc. The American Civil War of 1862-65, however, is of special importance, offering, as it does, peculiar opportunities for a critical examination of the question with which we are concerned; the only difficulty lies in gauging how far that war justifies one in drawing conclusions, so different would be the conditions under which war would be waged in Europe. If from one point of view the lessons of the war are of great value as resulting from a wholly unfettered judgment—since with neither antagonist had tradition or ordinary routine—which are often opposed to real progress and actual requirements—anything to say in the organisation and handling of the mounted forces; on the other hand, the surroundings were so different to those on a European theatre of war, and the Armies so dissimilar to those we can call out, that it is hardly possible to draw any safe conclusions from the experiences gained during it. Although there was a wide dissimilarity between the Federals and the Confederates, the material on either side, both in men and horses, was quite different to ours. While the South possessed in its sport and *shikar*-loving population, and in its well-bred horses a material which is of greater value than that at our command, the North had neither suitable men nor horses, and only in the closing years of the war were they able by dint of practice and by enlistments in the Western States to form some kind of a useful cavalry. Under such conditions as obtained in the Southern States—as will nowhere be found in Europe—it was there possible to improvise an excellent mounted force, deficient, however, in the attributes which would have made it fit to take its place in line of battle; for this, both the troops and the leaders were wanting in practice and experience. In the North, where the raising of cavalry at first led only to disastrous

results, far more was accomplished in the way of improvisation of artillery (as by the French Republic in 1871), and this arm soon showed a great superiority over that possessed by the South.

How little one can measure such unique brilliant performances—as some of those of the Southern cavalry—by the European standard, we understand from the raid made by Stuart in October, 1862, into Pennsylvania, with 1,800 horse and 2 guns to rear of the whole hostile force, during which, owing to the wealth of horses possessed by the country, he was able to remount the greater number of his men, who then marched on riding a new horse, and leading the old one. The Northern cavalry also followed suit, when, at the end of April, 1863, they burst into Virginia, under Stoneman, and took 800 horses from the Virginian farmers.

The fact that these raids were successful invites discussion as to the possibility of this sort of warfare in a European campaign. I cannot altogether agree with Lieut.-Colonel Frhr. von Freytag in his “*Studien über Kriegführung auf Grundlage des Amerikanischen Sezessionskriegs*,” when he states that “to-day no Army has such a preponderance of cavalry that it would occur to any leader to use it, as here, in partisan warfare, and thus expose it to losses which would render it unfit for use in more important operations.” It is clear that in a hostile country the question would always arise in regard to such operations, as to how many of his mounted men the general in command could count upon seeing again, and whether the venture seems to promise adequate results. It is very plain that in 1870-71 our cavalry, as also that of the French, was—owing to faulty armament and training—quite unfitted for such operations, and on a European theatre of war, raids as carried out by Stuart could hardly be decided on if cavalry divisions, organised as such, are to be ready for use as they now are expected to be. But were it possible, as a condition of success, to arrive at greater independence in the cavalry divisions as self-contained fighting units, it is difficult to see why these should not find opportunities for operating against the enemy’s flanks and communications (which, in these days of gigantic Armies, have increased in importance and vulnerability), as well as for work of other kinds. If this is not admitted, then we renounce getting the full value of the element of speed, whereby cavalry can appear quickly and again disappear from view, while the provision of more self-contained fighting units will naturally reduce the risk of increased losses. I consider some of these raids to be perfectly feasible in European warfare under similar circumstances—such a one as that, for instance, which the northern general, Stoneman, carried out with 3,500 horse, between the Rapahannock and James River in April, 1863, and which occasioned immense loss to his opponent. The question of the utility of such a raid as an isolated case must be decided on its merits; I am now merely discussing its practicability. For, on the other hand, it is undeniable that such raids had, not infrequently, disastrous results, as when, for instance, in Wheeler’s march with the Southern cavalry at the end of August, 1864, to destroy the railway at Chattanooga, the achievement bore no proportion to the sacrifices it entailed, while—worse still—it robbed General Hood of the bulk of his cavalry, with the result that his information was faulty, and, being threatened in rear, he was compelled to fall back. Naturally, the carrying out of such operations in one’s own or in a friendly country is considerably easier than in a hostile one,



and it appears to me unquestionable, that had the French cavalry been better organised and trained in the second part of the war, it would have been able to operate with considerable success against the inferior *etappen* troops holding our lines of communication.<sup>1</sup> One can imagine what an influence the French cavalry would have exercised upon the German operations had it succeeded in cutting the railway between France and Germany for any length of time.

A characteristic of the cavalry actions of the war of Secession was the constant employment of dismounted fire. The reason lay in the fact that the Southern horsemen from their open-air life were mounted sharpshooters, excellently trained in the use of the rifle, but wholly unpractised in the close order movements of the attack *as cavalry*; the thickly wooded country, however, in which great battles were fought out, necessitated the mounted riflemen form of action if the cavalry were to be anything but mere lookers-on. No doubt, also for the same reasons it happened that fire-action was frequently employed when the occasion was unsuited for it, as when Stuart, dismounting his men to attack Bulford's brigade in the Brandy Station battle, was placed in grave straits by the sudden appearance in his rear of a mounted brigade of the enemy. Against any other foe he would have paid dearly for his faulty tactics. In spite of the frequent employment of dismounted action, these horsemen had about them nothing of the character of mounted infantry—they looked upon themselves as cavalry, and proved that they were such by the excellent use they made of their sabres in various attacks carried out by individual squadrons and regiments.

On the 8th June, 1863, Stuart did employ his men in mass under General Lee, in an important operation entirely as a mounted force. At the same time the men were so accustomed to fight on foot that for them it was an every-day affair, and their operations—such as that where Stuart carried out a night attack dismounted at Catlett's Station on 22nd August, 1862—may be taken as models for that form of action. Over and over again the cavalry entrenched themselves to hold certain points, as did Sheridan, the best of the Northern Generals, in order to secure his communications at Old Coldharbour on 31st May, 1864.<sup>2</sup> If, then, the use of cavalry in this civil war cannot, in many respects, be looked upon as a model for us, we still learn from it what can be done by a cavalry to whom fighting on foot comes natural, and which has equipped itself in every way for the particular exigencies of that theatre of war. In any case, one must remember that *from the days of Napoleon until the present time in no single campaign has cavalry exercised so vast an influence over the operations as they did in this war*, wherein of a truth the personality of the leaders has been very striking—such men as, in the South, the God-inspired Stuart, and later, the redoubtable Fitzhugh Lee; and on the Northern side, Sheridan and Pleasanton. Stuart, the personification of heroism, became also the Pioneer.

(To be continued.)

<sup>1</sup>See Cardinal v. Widdern's "*Der Krieg auf den rückwärtigen Verbindungen des deutschen Heeres, 1871.*"

<sup>2</sup>We see everywhere in this campaign that the constant employment of dismounted action in no way destroyed the dash of the mounted man. When considering the Russian cavalry in the last Turkish war, we shall find the exact opposite to be the case.

## NOTES ON THE BATTLE OF SEA OF JAPAN.

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THE following account of the battle of Tsushima, published by the *Army and Navy Journal*, of New York, may be of interest:—

“We are permitted to publish the following figures and explanations compiled by Lieut.-Commander W. L. Rodgers, U.S.N., Lieutenant L. M. Overstreet, U.S.N., and Lieutenant R. D. White, U.S.N., from *data* obtained on board the Russian vessels “Jemtchug,” “Oleg,” and “Aurora” at Manila, P.I.

Subject: Russo-Japanese naval battle; Time and place: Off Tsushima Island, 27th May, 1905. Source of information: Visit and conversation on board the Russian cruisers “Oleg,” “Aurora,” and “Jemtchug.”

27th May, 1905, 1 p.m. Position of fleets, just as the belligerents sighted each other:—

Nisshin.

Kasagi.

Yakumo.

Azuma.

Iwate.

Idzumo.

Towika.

Asama.

The Japanese had eight cruisers in the fight, and these are the probable ones.

Fuji.

Shikishima.

Asahia.

Mikasa.

Four battle-ships led the column.

### *Russian Cruising Formation.*

Isumrud	Osliaibia	Suvaroff	Jemtchug
Torpedo	Sissoi Veliky	Alexander III.	
craft	Navarin	Borodino	
	Ad. Nakhimoff	Orel	Torpedo craft
	Nikolai I.		Oleg
	Ad. Apraksin	Transports	Aurora
	Ad. Senyavin		Dmitri Donskoi
	Ad. Oushakoff		Vladimir Monomakh
		Almaz	
		Pamiat Azova	Torpedo craft
		Ad. Korniloff	
		Svietlana.	

The “Suvaroff” led 1st Division, Admiral Rodjestvensky.

The “Osliaibia” led 2nd Division, Admiral Felkersam.

The “Nikolai” led 3rd Division, Admiral Nebogatoff.

The “Oleg” led Cruiser Division, Admiral Enquist.

The “Almaz” led Rear Division, Admiral Nukvist.

The Russians tried at once to form for battle, but the Japanese altered course and ran across the head of the Russians’ double



column; giving the leaders a terrible pounding before single column was formed. The following sketches will show the positions and formations of the fleets during the battle:—

Fig. 1. Time 1.00 p.m.

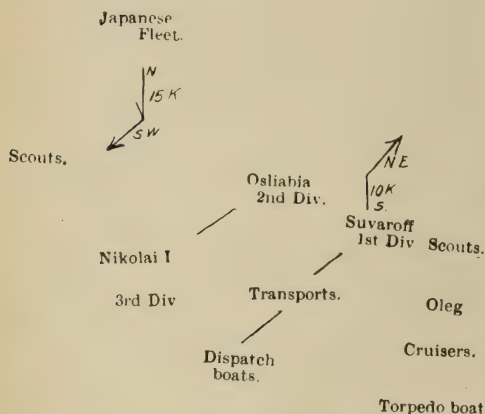
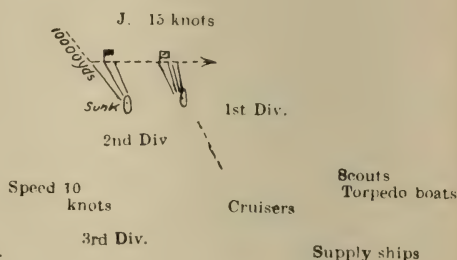


Fig. 2. Time 1.20 p.m.



Russians in cruising formation heading N.E., speed 10 knots. Japanese heading S.W. at 15 knots.

The Japanese fleet opened fire at 1.20 at 10,000 yards range while the first Russian division was obliquing into battle column.

The Japanese fleet concentrated their fire on the "Osiabia," and in fifty minutes she was destroyed and sunk. She went down firing from her after turret as the bows disappeared under water. The "Suvaroff" now received the concentrated fire. All Japanese ships in action. Only head of Russian 1st and 2nd Divisions in action.

Fig. 3.



Fig. 4.

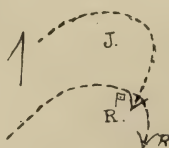
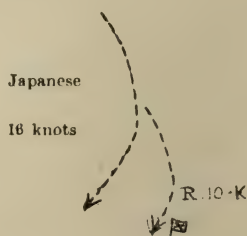


Fig. 5



The "Suvaroff" was raked and set on fire.

The Russians reversed their course on a great radius, and the Japanese followed. Togo said to have disappeared into the fog for short time.

The "Alexander III." fell out to port badly disabled.

The "Suvaroff" fell out to starboard and sank.

An observer on the "Aurora" said she was on her beam ends for fifteen minutes, and that he could see down her smoke-stacks and also the men jumping overboard. A torpedo-boat picked up Admiral Rodjestvensky and 150 men and started for the "Aurora," but was unable to board her, due to a heavy fire from the enemy. Then he sought the "Nikolai," signalled to Nebogatoff that he was wounded,

and for him to take command, and left the battle. The Russian fleet again reversed course with starboard helm and the Japanese fleet disappeared from the narrator's view, who was on the "Jemtschug"

Fig. 6.

3.00 p.m.

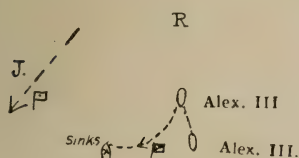


Fig 7

2nd attack 4.00 p.m.

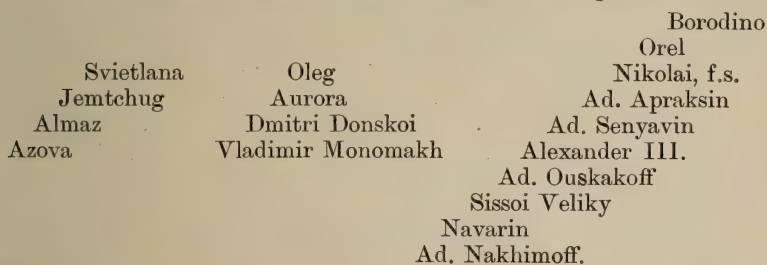


to the eastward. The Japanese probably circled with the port helm (an observer on the "Aurora" said this was the case), and was lost in the mist. In an hour the Japanese fleet reappeared, and was sighted to the northward and eastward, standing S.W. toward "Alexander III."

The Russian fleet shielded the "Alexander III." in this attack, and the Japanese disappeared from the narrator's view on the "Jemtschug" from 4 p.m. to 5.25 p.m.

The fleet now reformed under Admiral Nebogatoff, as shown in the next sketch:—

Russian Fleet as reformed by Admiral Nebogatoff.



Third attack.

Time 5.25 p.m.

The Japanese had altered their course to the southward after the second attack at 4 p.m., and now their battle-ships appeared steaming from southward and tried to circle and head off the Russian column. The Japanese light squadron appeared on the port bow.

Fig. 9.

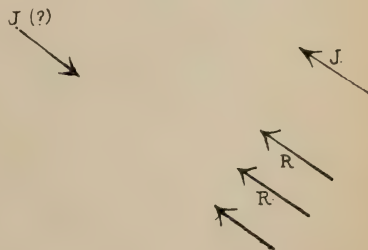
Jap. Cruisers



2 miles

Fig. 10.

Japanese battleships



It is thought that here the Japanese cruisers stood down between the heavy Russian columns, pouring a heavy fire into the Russian

cruisers. An observer on the "Aurora" stated that he recognised the "Chitose," "Kasagi," and "Iwate" as the vessels doing his ship the most damage. The "Aurora" and "Oleg" were both badly damaged by shot on the right starboard bow and starboard beam.

Time, 7.30 p.m.; sun-down, 7 p.m.

The Japanese seemed to be drawing around the head of the Russian column, so Nebogatoff executed "ships left" and stood to the south-west. The Russian cruisers went column left.

The "Borodino" dropped out before this change of formation, she having been destroyed.

The narrator on the "Jemtschug" now lost sight of the battle-ships in the darkness. The Japanese, after their flying attack on the Russian cruisers (as shown in Fig. 10), disappeared from the sight of the observers on the "Jemtschug" in the mist and darkness.

The fastest Russian cruisers were now by themselves headed to the southward. The "Jemtschug" tried three times to turn to the northward (first to the right and then to the left), but each time

Fig. 11

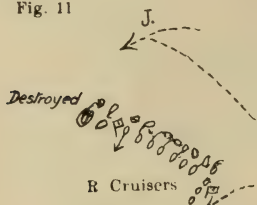
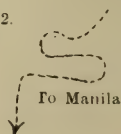


Fig. 12



she was headed off by the Japanese light craft. The "Aurora" reports steaming most all night at 19 knots and no lights showing, trying to get to the northward. Dozens of the enemy's torpedo-boats were seen like shadows flitting about in the darkness, but the "Aurora" escaped unhurt. At any rate, high speed and no lights (on a dark night) seems good protection against torpedo-boats. Next day the Admiral (Enquist) transferred his flag from the "Oleg" to the "Aurora," and with the "Jemtschug" also came to Manila.

*Remarks.*—The weather was misty and the Japanese ships (painted grey were not visible at times to the enemy when the Russian ships (black hulls and white stacks) were visible to the Japanese, according to the Russian reports. The Russians said repeatedly that the Japanese fire was heavy, rapid, and accurate. Their fire control was good, and the fire concentrated on the head of the Russian column. They cannot understand why their ships (five battle-ships) capsized so quickly by gun-fire, as the range was long, the enemy opening fire at 10,000 yards, and never coming into close action. The "Aurora" and "Jemtschug" were uninjured below the protective deck, as the enemy's shells exploded violently—little penetration."

One of the officers states:—"I visited the 'Oleg' on the morning of 18th June. The ship had been struck by fifteen large projectiles, 6-inch or 8-inch, only one of which had exploded inside. I was surprised at not finding the wrecking effects inside, to be expected when unarmoured sides are exposed to the impact of common shell. The Japanese fuses are evidently very sensitive, and the shells are exploded with some high explosive, as all but one of the shells exploded on striking the skin



plating, tearing holes in the sides and causing many splinters and small fragments to fly in all directions. The Russian officers stated that they found traverses and screens made of hammocks most effectual in stopping these fragments. The "Oleg" lost thirteen killed and thirty, including two officers, wounded, two of whom have since died. The ship had suffered little real damage; one small compartment above the protective deck was flooded because of a water-line hit, but not a gun was disabled, and the only damage to the interior of the ship was caused by the one shell exploding on the berth deck near an ammunition hoist, which was disabled, setting fire to the charge then in the hoist, which dropped into the handling room, where the flames were extinguished. This shell damaged some of the auxiliary piping in this compartment, but nothing of importance in the battle, except voice tubing, was injured. Below the protective deck the ship was not damaged, engines, boilers, etc., not affected in any way, as the "Oleg" steamed over 20 knots at the close of the battle. The officers said that they first sighted the Japanese cruisers at 10 a.m., and the engagement with the battle-ships began at about 1 p.m.; that during the night they saw many torpedo-boats, and heard from their own decks the firing of three torpedoes; that they saw a Japanese cruiser sink, and also a number of Japanese afloat on wreckage. They discussed the battle, etc., freely but declined to talk of Admiral Nebogatoff, whose actions evidently did not meet with their approval. The "Oleg" seemed to be in good condition considering her experiences, and was clean. Until a few days ago her berth deck and living spaces had been filled with coal and her ward room turned over to the sick and wounded."

—*U.S. Army and Navy Journal.*

## NAVAL NOTES.

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HOME.—The following are the principal appointments which have been made : Rear-Admiral—G. F. King Hall to be Senior Officer on the Coast of Ireland. Captains—The Hon. W. G. Stopford to be Commodore, 2nd Class, for command of Royal Naval Barracks, Portsmouth; R. H. Bacon, D.S.O., to “Irresistible”; P. V. Lewes, D.S.O., to “Hyacinth”; F. J. Foley to “New Zealand”; P. W. Bush, M.V.O., to “Cambridge”; C. H. Moore to “Argyll”; H. Lyon to “Bedford”; R. H. Peirse, M.V.O., to “Commonwealth”; C. D. Granville to “Trafalgar”; C. F. Sowerby to “Isis”; A. H. Christian to “Duke of Edinburgh”; G. C. A. Marescaux to “Europa”. Commanders—J. C. Tancred to “Pelorus”; R. Sullivan to “Pandora.”

Vice-Admiral the Hon. Sir A. G. Curzon-Howe, K.C.B., C.V.O., C.M.G., hoisted his flag on the 5th inst. at Devonport on board the “Cæsar” as Second-in-Command of the Channel Fleet, in succession to Vice-Admiral Sir A. W. Moore, K.C.B., K.C.V.O., C.M.G.

Rear-Admirals E. H. Gamble, C.B., and C. H. Adair hoisted their flags on the 3rd inst. at Plymouth and Chatham on board the “Empress of India” and “Resolution” respectively, in command of the Reserve Divisions at those ports.

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The first-class armoured cruiser “King Alfred” commissioned at Portsmouth on the 2nd inst. as flag-ship in China. The first-class armoured cruiser “Kent” commissioned on the 2nd inst. at Chatham for service on the China station, where she will relieve the first-class armoured cruiser “Hogue”; her sister-ship, the “Sutlej,” on the same station, is also to return home on the arrival of the “King Alfred” at Colombo.

The second-class cruiser “Hermes” commissioned on the 9th inst. at Portsmouth for service as flag-ship on the East Indies station, where she will relieve her sister-ship, the “Hyacinth.” The second-class cruiser “Iphigenia” arrived at Plymouth on the 11th ult. from China, and will pay off at Portsmouth. The third-class cruisers “Mildura” and “Phoebe” arrived at Plymouth on the 6th and 8th ult. from the Australian station, and will pay off at Chatham and Portsmouth respectively, after which both ships will be sold out of the Service.

Orders have been given by the Admiralty for the Channel, Atlantic, and Mediterranean Fleets, together with the three squadrons of armoured cruisers, to assemble at Lagos, on the coast of Portugal, about the

middle of February for the purpose of carrying out combined exercises under the chief direction of Admiral Sir A. K. Wilson, V.C., G.C.V.O., K.C.B., Commander-in-Chief of the Channel Fleet.

*Steam Trials.*—The new first-class armoured cruiser “Black Prince” has completed her steam trials with the following results:—On the second 30 hours’ trial the engines developed 16,699-I.H.P., and the mean speed during the whole of the 30 hours was 21·6 knots. On the 8 hours’ full-power trial, which was made off Plymouth on the 12th ult., the engines developed 23,939-I.H.P., giving a mean speed on the measured mile of 23·66 knots. There was a marked absence of vibration, and the ship proved to be very steady in a sea-way.

With the conclusion of the full-power trial of the scout “Attentive” on the 12th ult., the whole of the new class, consisting of eight vessels of the scout type recently constructed for the Navy, have now been completed. The vessels have successfully fulfilled the conditions laid down, the most important of which is undoubtedly speed. Accounts have already appeared of most of these vessels. The particulars of the “Attentive,” constructed by Sir W. G. Armstrong, Whitworth, & Co., at Elswick, are as follows:—Length between perpendiculars, 374 feet; beam, 38 feet 3 inches; mean draught on trial, 12 feet 6 inches; displacement on trial, 2,620 tons. On the full-power trial of the “Attentive,” after ascertaining the necessary revolutions for full speed by six consecutive runs over the new measured mile course at St. Abb’s Head, the continuance of the trial for the contract period of eight hours gave the vessel a mean speed for the whole run of 25·88 knots, with a mean H.P. of 16,195, and mean revolutions of 257·3. It is worthy of note that through the whole course of the trial the speed gradually increased from something over 25 knots until, during the last hour, a speed of 26½ knots was recorded. It is therefore claimed that the “Attentive” is the fastest of the whole class, and it is believed that she is the fastest ship in the world exceeding 300 feet in length and 2,000 tons displacement, the previous record over the full period of trial being held by the sister vessel, the “Adventure,” also built by Messrs. Armstrong. During the trials of their two scouts Messrs. Armstrong made a series of interesting experiments with different propellers, and it is claimed that it was the final selection made for the “Attentive” which gave to her the superiority over the “Adventure” in point of speed. The engines of all the eight scouts are of the reciprocating type, those for the “Adventure” and “Attentive” being supplied by Messrs. Hawthorn, Leslie, & Co. (Ltd.)—*Times*.

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*The Gun-layers’ Test.*—The result of the test of gun-layers in His Majesty’s Fleet, 1905, has been published as a Parliamentary paper [Cd. 2703]. In a covering letter addressed to the commanders-in-chief, captains, commanders, and commanding officers of His Majesty’s ships and vessels, dated 12th December, it is stated that their lordships note with much satisfaction the great improvement in the results as compared to former years. The conditions under which the practice took place were different to those of 1904, the range being shortened to that in use in 1903 and previous years, the target being smaller than that used in 1904, and reduced also as compared to the target in use in 1903 and previous years as regards the 9·2-inch guns and above. The award of the medal will be promulgated in due course.



The following is the abstract of the firing:—

Order of Merit.	Fleet or Squadron.	No. of Ships.	No. of Men Firing.	Points per Man.	First Ship in Fleet.	Scores.
1	Atlantic ... ..	15	211	76·01	Illustrious ... ..	108·87
2	3rd Cruiser ... ..	4	52	75·43	Leviathan ... ..	105·38
3	Channel ... ..	14	188	74·64	Exmouth ... ..	127·78
4	2nd Cruiser ... ..	6	78	69·05	Berwick ... ..	87·64
5	Mediterranean ... ..	12	147	68·52	Bulwark ... ..	114·04
6	East Indies ... ..	5	43	66·66	Perseus ... ..	100·09
7	China ... ..	14	162	65·05	Iphigenia ... ..	91·40
8	Cape of Good Hope ... ..	4	38	64·14	Pelorus ... ..	74·58
9	1st Cruiser ... ..	6	72	61·63	Monmouth ... ..	81·49
10	Australia ... ..	5	47	55·27	Pegasus ... ..	74·58
11	North America and West Indies ... ..	4	36	53·04	Diamond ... ..	68·03
12	Tenders ... ..	11	22	26·12	Skipjack ... ..	52·92
		100	1,096	68·26		

*Statement of Admiralty Policy—(concluded):—*

*Shipbuilding Policy.*

Before deciding on the building policy of the present year, an accurate review of our naval position as regards other Powers had to be made.

It must be remembered that however formidable foreign shipbuilding programmes may appear on paper, we can always overtake them in consequence of our resources and our power of rapid construction.

Rapid shipbuilding is of great importance, because:—

- The fighting vessel is sooner tested, so that improvements suggested by experience may be effected, and defects may be brought to notice in time to be avoided in succeeding vessels. Thus, it is most desirable to complete the first ship of a new class with all possible despatch.
- It is obviously more conducive to the immediate fighting power of the Fleet to push forward a limited number of vessels to completion than to spend the same money on a larger number building at a slower rate.
- There is the financial benefit of sooner getting interest on capital by having vessels at sea ready to fight instead of partly completed and not ready to fight, even if the number of the latter is much greater.
- It is economical to run all the shipbuilding machinery at its full ordinary rate of output. There is a constant gain in building more rapidly up to the point when men begin to be too closely packed to work without hindering each other, or at which excessive overtime and high rates of pay are involved.
- An immediate result of building at, say, twice the usual rate would be that only one-half as many ships would be under construction at any one time. There will be needed, therefore, for building purposes, proportionally less slip, dock, and basin accommodation.

At the present time strategic requirements necessitate an output of four large armoured ships annually, and unless unforeseen contingencies arise, this number will not be exceeded. The period of building is to be two years, and therefore four ships will be laid down each year, and there will be eight ships in course of construction in any one year either in the Dockyards or by contract.

The Board have come to the conclusion that the right policy is to make out their programme of shipbuilding for the next year only, and while they anticipate at present that the output of four large armoured ships a year should suffice to meet our requirements, there would be no difficulty whatever in increasing this output to whatever extent may be necessary in consequence of any increase of Naval Power abroad.

#### *Dockyard Reform.*

As foreshadowed in the First Lord's Statement that accompanied the Navy Estimates for this year, the subject of the administration of the several Naval Establishments had been enquired into, and important organic changes have been decided upon, especially in regard to the Dockyards, etc., as explained later in Note D, relating to Dockyard re-organisation.

#### *Naval Expenditure.*

The Navy Estimates as now presented yearly to Parliament must not be looked on only as the cost of our first line of defence. They also include the cost of many subsidiary services, some of which only indirectly affect the Navy, such as, for instance, Fishery Duties, Scientific Services, and the work of the Coastguard. These absorb about £1,000,000 of the money included in the Navy Estimates.

The whole cost of the Observatories at Greenwich and the Cape of Good Hope falls on the Navy Estimates, although they are mainly of scientific interest, and only indirectly of practical service to the Navy.

Policing the Fisheries costs £260,000 a year, which is necessarily spent on a type of ship which would not be built for war alone.

It is desirable to remember how this million is spent, when considering the amount of Naval Expenditure.

#### *Conclusion.*

The whole of the recent reforms have an effect on the Navy Estimates. The elimination of older ships reduces the number of men required; it permits us to keep the Navy up to the most modern requirements, while limiting the charges incident to increase of numbers. The reduction of the smaller establishments abroad has made possible considerable saving in stores and maintenance charges. With the condemnation of old ships, obsolete guns and armaments disappear; consequently magazine accommodation on various stations for innumerable classes of ammunition is no longer necessary, the maintenance of plant for repairing and altering types of guns and munitions is no longer required, and the space vacated can be devoted to more useful purposes, thus saving new expenditure on works.

The new education scheme will give Naval Officers of the future an adaptability for the duties of all the branches of their calling, which will make possible a certain reduction of the number of officers as compared with present requirements.

The development of the Non-continuous Service system for seamen, and the restriction of re-engagement for pension to the higher ratings,

will effect considerable savings on the non-effective votes for pensions. The entry of Non-continuous Service men will effect a saving in the costs of early training.

I have recently received the report (given in a separate note) of a Committee I appointed to consider the Estimates for 1906-7, and I am able to say that these various economies will allow the Board to diminish the sum for which Parliament will be asked by a further  $1\frac{1}{2}$  million beyond the  $3\frac{1}{2}$  million reduction made last spring.

I am bound, however, to add a word of caution, for the public cannot rely on this reduction being continued in future years if foreign countries make developments in their shipbuilding programmes which we cannot now foresee; but the programme of shipbuilding we have in view for future years, and have provided for, will, in the opinion of the Board of Admiralty, meet all the developments of which the resources of foreign countries seem at present capable.

I append some notes which have been prepared in the department with respect to certain of the principal changes.

November 30th, 1905.

CAWDOR.

The notes referred to by Lord Cawdor relate to the principal reforms undertaken by the Admiralty in the period 1903-05, and are arranged under the heads:—*Personnel*, Fleet Reorganisation, Obsolescence of Warships, Dockyard Reorganisation, and Estimates Committee.

The following tables appear as appendices "A" and "B." :—

# APPENDIX A.

Table I.—Fleet in Commission.

	Battle-ships.	Armoured Cruisers.*	Large 1st and 2nd Class Protected Cruisers.	Smaller 2nd and 3rd Class Cruisers.	Scouts.	Gun-boats.	Destroyers.	T.B.	Submarines.
Channel ... ..	17	6	2	2	1	—	24	—	—
Particular service	—	—	5	1	—	—	—	—	—
Training-ships ...	—	—	5	—	—	—	—	—	—
Home waters ...	—	—	—	1	—	14	—	20	17
Atlantic ... ..	8	6	1	1	1	—	12†	12	—
Mediterranean ...	8	4	3	—	1	—	22†	9	—
Eastern Fleet ...	—	5	3	9	—	—	13	4	—
Cape ... ..	—	—	1	3	—	—	—	1	—

\*Armoured cruisers include "Powerfuls" and "Diadems." †Six in commission, six in reserve. ‡Fifteen in commission, seven in reserve.

Table II.—Fleet in Commission in Reserve in Home Waters.

Battle-ships.	Armoured Cruisers.*	Large 1st and 2nd Class Protected Cruisers.	Smaller 2nd and 3rd Class Cruisers.	Scouts.	Gun-boats.	Destroyers.	T.B.
12	14	8	8	5	3	71	33

\*Armoured cruisers include "Powerfuls" and "Diadems."



## APPENDIX B.

*Financial Saving Consequent on the Reorganisation of the Fleet.*

(As estimated in April, 1905.)

Table I.—Cost of New Organisation.

	Pay, Wages, and Allowances.	Victualling.	Maintenance of Ships, including Hull, Machinery, Gun Mountings, Torpedo Fittings, Maintenance Stores and Coal.	Medicines.	Naval Ordnance Stores.	Miscellaneous.	Total.
	£	£	£	£	£	£	£
Additional vessels in Commission ... ..	585,000	195,000	See below*	5,000	60,000	25,000	870,000
Ships with nucleus crews	506,000	160,000	See below*	4,000	40,000	10,000	720,000
Vessels in full Commission with nucleus crews, and in Dockyard hands, <i>i.e.</i> , the entire Fleet, except ships building.	—	—	*3,105,000	—	—	—	3,105,000
Cost of Naval Establishments at:—							
Jamaica ... ..	—	—	—	—	—	—	} Nil.
Halifax ... ..	—	—	—	—	—	—	
Esquimalt ... ..	—	—	—	—	—	—	
Trincomalee ... ..	—	—	—	—	—	—	
Ascension ... ..	} 75,000 inclusive	} 75,000 inclusive	} of all Establishments	} 75,000 inclusive	} of all Establishments	} 75,000 inclusive	} 75,000
Cape of Good Hope ... ..							
Bermuda ... ..	—	—	—	—	—	—	—
Total ... ..	1,166,000	355,000	3,105,000	9,000	100,000	35,000	4,770,000

Table II.—Cost of Former Organisation.

Ships in Commission reduced.	1,055,000	350,000	See below†	10,000	105,000	50,000	1,570,000
Ships in Fleet Reserve ...	208,000	60,000	See below†	2,000	—	5,000	275,000
Vessels in Commission, in fleet and Dockyard Reserve, <i>i.e.</i> , the entire Fleet except ships building.	—	—	†3,950,000	—	—	—	3,950,000
Cost of Naval Establishments at:—							
Jamaica ... ..	} 117,000	} Inclusive of all Establishments	} Inclusive of all Establishments	} 117,000	} 117,000	} 117,000	} 117,000
Halifax ... ..							
Esquimalt ... ..							
Trincomalee ... ..	} 150,000	} 150,000	} 150,000	} 150,000	} 150,000	} 150,000	} 150,000
Ascension ... ..							
Cape of Good Hope ... ..							
Bermuda ... ..	—	—	—	—	—	—	—
Total ... ..	1,530,000	410,000	3,950,000	12,000	105,000	55,000	6,062,000
Less expenses under New Organisation (see Table I)	1,166,000	355,000	3,105,000	9,000	100,000	35,000	4,770,000
Estimated net annual saving.	364,000	55,000	845,000	3,000	5,000	20,000	†1,292,000

† Exclusive of a prospective reduction of about £60,000 a year in liability for retired pay and pension.

FRANCE.—The following are the principal promotions and appointments: Capitaines de Frégate—F. M. C. Lahalle to be Capitaine de Vaisseau; G. P. Collas to “Lévrier” and Command of the 2nd Torpedo Flotilla.—*Journal Officiel de la République Française.*

*New Ships and Dockyard Notes.*—At Brest the attention of the yard is concentrated on the work of completing the two new first-class battle-ships “République” and “Démocratie”; the shells and turrets of the first named are in place and ready to receive the armour, which has all been delivered alongside the ship, and she is receiving her first coat of paint outside since she was launched. Although launched nearly a year later, the “Démocratie” is almost in as forward a state; all her side armour is in place, and the armour bases for the turrets of the 19.4-cm. (7.6-inch) guns are also fixed. The progress made with the “Démocratie” shows how much more economical it is to build a series of ships of one design. The difference in the armament of the two ships, viz.: the substitution of ten 9.4-cm. (3.7-inch) guns in the “Démocratie” for the eighteen 16.4-cm. (6.4-inch) guns of the “République,” will not cause any delay, while the more powerful secondary armament thus provided will greatly increase her fighting efficiency.

Work on the construction of the new armoured cruiser “Edgard Quinet,” which was recently laid down in the yard at Brest, is now in full swing. The work, also at the same yard, of the reconstruction of the armoured cruiser “Dupuy de Lôme,” the first real armoured cruiser ever built, is proceeding rapidly and satisfactorily. The new Normand small-tube water-tube boilers are in place; the after military mast has been removed, a smaller and more stumpy one taking its place, which does not rise much above the after bridge, but there are two platforms, on the lower one of which will be carried four 3-pounders, and the upper one a search-light; the foremost military mast has also been shortened.

At Lorient, work on the new armoured cruiser “Victor Hugo” is proceeding satisfactory; the armoured turret for the foremost 19.4-cm. (7.6-inch) guns has been now finished, and it is hoped she will soon be ready to commence her trials. She and her two sister-ships, the “Gambetta” and “Léon Ferry,” will by the end of the present year be ready to form a small but really homogeneous and powerful little squadron of armoured cruisers.

The work of extending the yard is also proceeding, and the contract for lengthening No. 2 dock has been given out.

The new first-class armoured cruiser “Jules Ferry” has completed her trials satisfactorily. At her full-speed trials the engines developed 29,200-I.H.P., or 1,500-H.P. over the contract, giving her an estimated speed of 23 knots. For some reason the bearings on the measured mile do not appear to have been accurately taken. At her 24 hours’ coal-consumption trial, with the engines making 107 revolutions and developing 16,508-I.H.P., the coal consumption per H.P. per hour was 744 gr. (1.48 lbs.). At a further run of six hours’ duration, with the engines developing 17,000-I.H.P., the coal consumption was 710 gr (1.43 lb.); with the fires lighted under four of her boilers only, the engines developed 8,500-I.H.P., giving a speed of 16 knots. The ship is fitted with the Guyot-Du Temple small-tube boilers, which are fitted in most of the torpedo-boats. She is to be commissioned almost immediately, and will then undergo, so it is reported, a series of competitive trials with her sister-ship, the “Léon Gambetta.”

*Submarine Boats.*—The dimensions of the new submersibles, designed by M. Laubeuf, which are to be constructed at Cherbourg, under the programme for 1906, are as follows:—Length, 167·72 feet; beam, 16·3 feet; draught, 10·23 feet, with a displacement of 398 tons. The engines are to develop 700-H.P.; the motive power when on the surface will be steam; when submerged, electricity. There will be two propellers, and the estimated speed 12 knots; for armament there will be 7 torpedo discharges. Twelve are to be built at Cherbourg, three at Rochefort, and three at Toulon.

In a recent article the *Yacht* draws some comparisons between the submarines which up to the present have been laid down in France and England. It gives a list as follows of the dates, names, and tonnage of those laid down in the two countries:—

Years.	France.	England.
1885.....	— “Gymnote” (31 tons), submarine	
1888.....	— “Gustave Zédé” (266 tons) —	
1897.....	— “Morse” (136 tons) —	
1898.....	— “Narval” (116 tons) submersible	
	— “François,” “Algérien” (143 tons).	
1899.....	submarines	
	4 submarines, “Farfadet” type, 184 tons	
1900.....	— 4 submersibles, “Sirène” type, 157 tons	5 of the “Holland” type of 120 tons (Nos. 1 to 5).
1901.....	Mar. 20 submarines, “Naiade” type, 68 tons	1 of 180 tons: A <sub>1</sub> .
	Apr. “X,” 168 tons	
	Apr. “Y” 223 tons	
	May “Z” 202 tons	
1902.....	May 13 submersibles, “Aigrette” type, 175 tons (11 were countermanded by M. Pelletan, September, 1902)	3 of 200 tons, A <sub>2</sub> , A <sub>3</sub> , A <sub>4</sub> .
	(Jan.) “Omega,” submersible, 301 tons	{ 9 of 200 tons, type A (A <sub>5</sub> to A <sub>13</sub> ). 1 of 300 tons, type B (B <sub>1</sub> ).
1903.....	(Oct.) 6 submarines, “Emeraude” type, 392 tons	
1904.....	Oct. 2 submersibles, “Circé” type, 351 tons	10 of 300 tons, type B (B <sub>2</sub> to B <sub>11</sub> ).
	Nov. 10 submarines, “Guêpe” type, 45 tons	
	Dec. 2 submersibles of 400 tons (8 of the 10 submarines of the “Guêpe” type have been suspended by M. Thomson, by the request of the Budget Commission.)	
1905.....	The Budget recommends the construction of 16 submersibles of 400 tons. The plans are the same as those of the two submersibles ordered in December, 1904.	11 of 300 tons, type B (B <sub>12</sub> to B <sub>22</sub> ).

The writer shows that while there are only three types of submarines in England, in France there are 16, and that the displacement of these has been continually changing; beginning at 31 tons, it rose to 266, then fell to 136, again rising to 184, falling again to 68 to rise to 300 and 400, once more falling to 45 again to rise to 425. In England, on the other hand, the tonnage of the submarines has been steadily increased—an advance which is logical and justified as the result of the experience acquired. The writer holds that M. Pelletan, the late Minister of Marine, is to blame for the fact that France has lost much of the lead



in the matter of submarines, which she at one time undoubtedly possessed over other countries, England included.

*Précis of M. Charles Bos's Report on the Naval Estimates for 1906 (continued). Part II. Chapter I.*—M. Bos proceeds to point out that more and more the battle-ships and armoured cruisers among the principal naval Powers are tending to approach each other, and that in his opinion it will not be long ere the two types of ships are merged in each other. The startling victory of Tsushima is confirming this view; other Powers are already profiting by the lessons it conveyed, and it is time that France should do the same.

\* \* \*

He next proceeds to examine one after the other the different elements which go to make up a ship of war, applying to each part in turn the improvements which the Russo-Japanese war would seem to suggest:—

1. The *Hull proper*, including the lines of the ship, the armour, the steering apparatus, the means for transmitting orders, etc., the water-tight compartments, the coal stowage, torpedo discharges, etc.
2. The *Superstructures*, including the masts and tops, the guns in the tops, the funnels, conning-tower, wireless telegraphy apparatus, bridges, etc.
3. The *Engines and Screws*.
4. The *Boilers*.
5. The *Armament* (guns of all calibres and mountings).
6. The *Ammunition Supply*.
7. The *Personnel*, which we shall classify as follows:—
  - a. Flag officers.
  - b. Superior and subordinate officers (executive and engineering).
  - c. Warrant and petty officers.
  - d. Seamen specialists, and for deck duties.
8. The *Speed*.
9. The *Type of Fighting Ship*.

\* \* \*

M. Bos makes no pretence in this study to a technical knowledge which he does not possess, and states that he confines himself to putting forward, as clearly as possible, the criticisms and the demands of the experts (officers and engineers) who have carefully followed the different phases of the Russo-Japanese war. All the reforms, the improvements, and novelties, which he will point out as he goes along, have been suggested by them. It seems to him to be the best way of compiling the Report on the Naval Estimates to lay before Parliament the conclusions at which the men who have to construct the ships and fight them in action have arrived. He thinks in all sincerity that certain of these conclusions are such as to appeal to any ordinary common-sense.

### *Chapter II.: The Hull.*

M. Bos recalls that in his report last year he called attention to the fact that the lines of the hulls of most of the new ships were bad, and he proceeds: "In speaking of the lines, we referred more particularly to the run of the bow and stern. We pointed out that the scantling was too

weak, that the frames were too far apart, and that it had been necessary to strengthen them, and in some ships increase their number. Finally, we cautioned the Department of the Ministry of Marine against the fault which had been committed in sacrificing to speed the strength of certain of the midship parts of our fighting-ships.

"We supported our statements, first by the complaints of officers serving on board these ships, then by the mishaps which had occurred after they had been launched, and then by the fact that, in order to obtain the guaranteed speed, our ships had to be from forty to sixty feet longer than similar classes of vessels in foreign Navies, and that they were obliged to have a third or even more greater horse-power. An attempt has been made to show that these criticisms were not justified; it has not succeeded because they happen to be the truth.

"We have demanded that the Chief of the Technical Section shall no longer, on his own responsibility, work out the definite scheme of new ships. The engineers of the dockyard will, as was formerly the case, be called upon to furnish some preliminary estimates. The Department will select from among them that on which the ship will be built. Some new ideas will thus reveal themselves, as among several men of the same profession there must be more ideas than where there is only one. Moreover, the Model Trial Basin will be ready for use at the beginning of the year, which will render it far easier to study the form of the hull to be given to ships.

"We once more draw the attention of the Ministry to the advisability of adopting in the new ships different lines for the stern, as those we have with many officers criticised tend, in a heavy sea, to bury the ship's nose and thus decrease its speed.

\* \* \*

#### *Insufficient Protection of the Ships of the 1900 Programme.*

"None of our ships at present in commission or under construction are sufficiently protected against the torpedo. The protection over a great part of their hulls will not resist the heavy 12-inch, 10·8-inch and 9·4-inch projectiles. The battle-ships even of the 1900 Programme are to-day already out of date.

"In these ships the thick 280-mm. (11-inch) armour only extends 3 feet 3 inches below the water-line, and only affords protection to the hull for 11 feet above. The English ships have only 9-inch armour; the Japanese and United States ships the same. The new Russian ships of the "Andrei Pervosvanni" class, have only 8·5-inch armour; but, on the other hand, the armour of all these ships is carried lower below the water-line and above to a height of from 13 to 16 feet up the side.

"A thickness of 8·6-inch armour would appear to be sufficient, no case of armour being penetrated having occurred during the Russo-Japanese War. The economy in weight should be utilised to increase the surface of hull protected, both above and below the water-line. We lay stress on these two points; a 12-inch shell, which should strike the "Patrie" or "République" above the belt, or penetrating under water anywhere for some 30 or 40 feet in the fore part of the ship, would certainly cause grave injuries.

"On the other hand, it does not appear that the thickness of the upper belt of armour can well be diminished. The thickness of 200 mm. (7·8-inch), adopted in the battle-ships of the 1900 Programme,

appears to be suitable. The English 'King Edward VII.' class has 8-inch; in the Russian 'Tsarevitch,' which stood without serious injury, except to her steering apparatus, the fire of four Japanese battle-ships and four armoured cruisers at the battle of the 10th August, 1904, the upper belt was only 7·8-inch armour. Perhaps, as in the 'King Edward VII.,' the upper belt should only be carried forward to the extremity of the central battery, which would result in a sensible saving of weight."

M. Bos considers that some means must be found of better projecting ships against torpedoes. The Germans, he points out, have under consideration, a type of ship which should have a triple hull. Without going as far as that, he thinks that it is important to have a complete double hull; the two hulls being separated by bulkheads, between which would be compartments filled with coal, and cofferdams filled with cellulose or other material capable of diminishing the effect of explosions. The system of protection adopted by M. Lagane, the Chief Constructor of the La Seyne Yard, for the Russian battle-ship "Tsarevitch," by running two 1·8-inch longitudinal bulkheads, the whole length of the ship each side, might have further consideration, as it is understood the Germans are actually adopting this plan in their new ships.

In regard to the abolition of the ram, M. Bos holds strongly that its days are over, in view of the ranges at which modern battles are now fought, and further, that it decreases the speed of a ship. It is believed that the English Admiralty have decided on its suppression in their new battle-ships, and that there will be a corresponding economy in weight. So, with regard to the torpedo-discharges in large ships. The battle-ships and armoured cruisers of the 1900 Programme all carry 3 above-water and 2 submerged tubes, while during the Russo-Japanese War not a single torpedo was launched with effect by one of the large fighting-ships. A battle-ship or cruiser should be able to repel an attack of torpedo-boats by means of her small guns. In action between two large units, it is the gun which will have the last word. Under these circumstances the torpedo-tubes in large ships should be suppressed, as every useless fitting is only an embarrassment. The space occupied, and the weight gained by their removal, would be far better employed for the stowage of more ammunition for the guns, and it is recommended that in the new ships to be built this should be done. There will thus be a real specialisation of our fighting units, each being used exclusively for the object for which they are designed: the gun and shell for the battle-ship and cruiser, the torpedo for the torpedo or submarine.

The coal bunkers should be placed all round the boilers, in order that the transport of coal and oil to the fires should be as easy as possible. The modern ship being immobilised when her fuel gives out, it is necessary to consider how best to carry the largest quantity, so as to make her radius of action as extended as possible. The complete double hull, which defence against the torpedo renders necessary, seems to offer easily the additional space required.

With regard to the magazines, the fate of the "Petrovavlovsk," which sank in two minutes, shows the constructors what they ought to do. These magazines should be placed as close as possible to the guns they have to supply; in the next place, their walls should be armoured. No hesitation is permissible under this head, a torpedo or a shell exploding in close proximity to a magazine being able to cause the explosion of the shells in it, as happened to the Russian ship. The Japanese are showing us the road to follow. In the two battle-ships at present building in



England they have required that the magazines should be placed between the boiler-rooms and be protected externally by 12-inch armour.

(To be continued.)

UNITED STATES. — *Navy Target Practice.* — The Navy Department publishes for the information of the Service the standing of the various fleets, squadrons, and vessels in the record target-practice competition, 1905. In this calculation vessels of the first rate have a weight of 4; second rate, 3; third rate, 2; and vessels of the fourth rate, 1. Vessels carried on the Navy List as third rate but armed with no gun larger than a 6-pounder, are given a weight of 1.

The fleet and squadron arrangement follows that given in the Navy Register, dated 1st January, 1905, except that by special request made and approved before the practice, the "New York's" score was counted in with the Pacific Squadron, in view of the fact that her training had been held while flag-ship of that squadron.

#### *Final Merit of Fleets and Stations.*

NOTE.—These figures include every vessel (giving above weight to each) in each fleet.

1. Asiatic Fleet	107.50
2. Pacific Fleet	88.01
3. North Atlantic Fleet	84.16

#### *Final Merit of Squadrons and Divisions of Squadrons.*

NOTE.—The following table shows the standing and final merit:—

1. Of all regularly organised squadrons, including, with their allotted weights, all vessels in each.
2. Divisions and sub-divisions of squadrons in order to facilitate the comparison of different groups of more or less similar ships.

Standing.	Squadron.	Composed of	Final Merit.
1.	Battle-ship Squadron, Asiatic Fleet,	2 battle-ships, 1 monitor, 3 gun-boats, 5 destroyers	117.79
2.	Cruiser Squadron, Asiatic Fleet,	3 cruisers	93.28
3.	Philippine Squadron, Asiatic Fleet,	6 gun-boats	91.43
4.	Pacific Squadron,	5 cruisers, 2 destroyers	88.01
5.	Battle-ship Squadron, North Atlantic Fleet,	8 battle-ships, 1 gun-boat, 4 cruisers	86.83
6.	Caribbean Squadron, North Atlantic Fleet,	6 cruisers	85.03
7.	Coast Squadron,	1 battle-ship, 3 monitors, 5 destroyers	74.92

#### *Sub-divisions of Squadrons.*

1.	Battle-ship Squadron, Asiatic Fleet, without gun-boats and destroyers,	2 battle-ships, 1 monitor	141.42
2.	Battle-ship Squadron, Asiatic Fleet, without destroyers,	2 battle-ships, 1 monitor, 3 gun-boats	132.96
3.	Gun-boat Division of Battle-ship Squadron, Asiatic Fleet,	3 gun-boats	101.95
4.	Battle-ship Squadron, North Atlantic Fleet, without cruisers and gun-boats,	8 battle-ships	90.82

Stand- ing.	Squadron.	Composed of	Final Merit.
5.	Pacific Squadron without destroyers,	5 cruisers	84.82
6.	Coast Squadron, North Atlantic Fleet, without destroyers, 1 battle-ship, 3 monitors	- - - - -	81.54
7.	Cruiser Division, Battle-ship Squadron, North Atlantic Fleet, 4 cruisers	- - - - -	78.85

*Torpedo Craft.*

1.	Pacific Squadron, 2 destroyers	- - - - -	108.75
2.	First Flotilla, Battle-ship Squadron, Asiatic Fleet, 5 destroyers	- - - - -	75.35
3.	Second Flotilla, Coast Squadron, North Atlantic Fleet, 5 destroyers	- - - - -	63.00

*Final Merit of Ships.*

## Class I.—Vessels competing for the Battle-ship Trophy:—

Stand- ing.	Vessel.	Squadron and Station.	Final Merit.
1.	"Oregon" (Trophy)	Battle-ship, Asiatic	147.98
2.	"Monadnock"*	Battle-ship, Asiatic	139.72
3.	"Wisconsin"*	Battle-ship, Asiatic	136.13
4.	"New York"*	Pacific	126.82
5.	"Kentucky"	Battle-ship, North Atlantic	112.65
6.	"Nevada"	Coast, North Atlantic	110.49
7.	"Illinois"	Battle-ship, North Atlantic	102.79
8.	"Missouri"	Battle-ship, North Atlantic	99.34
9.	"Maine"	Battle-ship, North Atlantic	94.86
10.	"Iowa"	Battle-ship, North Atlantic	93.91
11.	"Massachusetts"	Battle-ship, North Atlantic	85.92
12.	"Alabama"	Battle-ship, North Atlantic	82.85
13.	"Olympia"	Cruiser Div., B.S., North Atlantic	78.37
14.	"Florida"	Coast, North Atlantic	77.71
15.	"Arkansas"	Coast, North Atlantic	74.47
16.	"Texas"	Coast, North Atlantic	69.51
17.	"Brooklyn"	Cruiser Div., B.S., North Atlantic	54.69
18.	"Kearsarge"	Battle-ship, North Atlantic	54.22
19.	"Wyoming"	Pacific	53.75

## Class II.—Vessels competing for the Cruiser Trophy:—

1.	"Raleigh" (Trophy)	Cruiser, Asiatic	134.09
2.	"Cleveland"	Cruiser Div., B.S., North Atlantic	105.60
3.	"Newark"	Caribbean, North Atlantic	102.03
4.	"Des Moines"	Cruiser Div., B.S., North Atlantic	101.13
5.	"Dixie"	Caribbean, North Atlantic	97.44
6.	"Petrel"	Pacific	85.41
7.	"Baltimore"	Cruiser, Asiatic	79.63
8.	"Denver"	Caribbean, North Atlantic	76.30
9.	"Cincinnati"	Cruiser, Asiatic	72.96
10.	"Boston"	Pacific	72.44
11.	"Tacoma"	Caribbean, North Atlantic	70.48
12.	"Marblehead"	Pacific	68.84
13.	"Bennington"	Pacific	59.94

\*The asterisk indicates that the vessel attained 85 per cent. or more of the final merit of the winning vessel in her class.

—U.S. Army and Navy Journal.

## MILITARY NOTES.

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HOME.—The following are the principal appointments which have been made :—

Lieut.-Generals — Lieut.-General Sir A. Hunter, K.C.B., D.S.O., Commanding Western Command, India, to be General. Lieut.-General E. P. Leach, V.C., C.V.O., C.B., to be a General Officer Commanding-in-Chief, 2nd Class. Lieut.-General Sir W. G. Nicholson, K.C.B., to be Quartermaster-General to the Forces (Third Military Member, Army Council).

Major-Generals—Major-General Inigo R. Jones, C.V.O., C.B., to Command the Troops, Straits Settlements. Major-General Sir C. E. Knox, K.C.B., Commanding 4th Division, to be Lieut.-General. Major-General A. S. Wynne, C.B., Commanding 6th Division, to be Lieut.-General. Major-General Sir H. J. Alderson, K.C.B., to be Colonel Commandant, Royal Artillery.

Colonels—Colonel F. S. Robb, C.B., M.V.O., from h.p., to be a Brigadier-General, to Command an Infantry Brigade, and is granted the temporary rank of Brigadier-General whilst so employed. Colonel (local Brigadier-General) E. T. Dickson, from Colonel on the Staff, to be a Major-General in the Army, to Command the Troops, West Africa. Colonel R. C. H. Lawrence, from an A.A.G., to be a Brigadier-General, to Command the Troops in Ceylon, and is granted the temporary rank of Brigadier-General whilst so employed. Colonel C. R. Townley, from Commanding the 12th Regimental District (the Suffolk Regiment), to be a Brigadier-General, to Command a grouped Regimental District, and is granted the temporary rank of Brigadier-General whilst so employed. Lieut.-Colonel and Brevet Colonel W. F. L. Lindsay, D.S.O., from h.p., to be a Staff Officer for Horse and Field Artillery, and is granted the substantive rank of Colonel in the Army.

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COLOURS, 1680-84, FIRST OR ROYAL REGIMENT OF FOOT GUARDS; FIRST OR ROYAL REGIMENT OF FOOT; THIRD OR HOLLAND REGIMENT OF FOOT; AND FOURTH OR DUCHESS OF YORK AND ALBANY'S REGIMENT OF FOOT.

### AUTHORITIES AND NOTES.

*Shape, Size, etc.*—See Chap. XXIII. on Regimental Economy in Colonel Walton's "History of the British Standing Army, 1660 to 1700."

The Regimental Colours forming the frontispiece and the following description, have been taken, by permission, from Colonel Walton's work.

*Colouring, Devices, etc.*—Nathan Brooks, 1684; the Holland Regiment flies the red cross bordered white in a green field. The Duchess of York and Albany's flies a red cross in a yellow field, bordered white, with rays as that of the Admiral's, with Her Royal Highness's cypher in the centre. The Admiral's is described as flying a red cross with rays of the sun issuing from each angle, or; The Royal Regiment flies St. Andrew's cross with thistle and crown circumscribed in the centre: "*Nemo me impune lacessit.*"

Dineley's Journal, temp. Charles II. (Kilkenny Arch. Ss., Vol. IV., 1862), gives an illustration with the colourings marked of the colours of the "Ancient Scotch," commanded by the Earl of Dumbarton, two



companies being then at Youghal. The regiment was in Ireland in 1661 and in 1679; in the latter year 4 companies embarked at Kinsale for Tangier, and 1679 was, therefore, doubtless the year in which the regiment was quartered about Kinsale and Youghal, and in which Mr. Dineley saw it. He entitles his drawing the "Flag of Douglas Regiment." If Mr. Dineley is correct in showing a flame on the Lieut.-Colonel's colour, it was peculiar to the First Foot; in all other regiments this was the Major's emblem.

Sandford, 1685, speaks thus of the "First Regiment of H.M.'s Foot Guards: "The colours or ensigns of this first regiment (24 in number) were of a large size, namely, two yards and three-quarters flying and two yards and a half on the ensign-staff. In the time of his late Majesty they had been distinguished by royal badges placed in the centre of each colour. The King's standard of his own company was of crimson taffeta embroidered with two 'C.C.'s' interlaced under the Imperial crown of gold. The Colonel's ensign was of white taffeta with a cross of crimson taffeta throughout (as were all the other ensigns), and differenced with an Imperial crown of gold only. The Lieut.-Colonel's with 'C.R.' in gold; the Major's with 'C.R.' and a pile wavy; the 1st Captain with the King's crest of gold; the 2nd Captain's with a golden rose; the 3rd, a golden fleur-de-lis; the 4th, a portcullis, gold; the 5th, a white rose within a sun, gold; the 6th, a thistle, gold, the stalk and leaves proper; the 7th, a harp, gold; the 8th, a golden dragon; the 9th, a white greyhound with a collar and ring, gold; the 10th, a sun of gold; the 11th, a white unicorn with horn, mane and hoofs, gold; the 12th, a white antelope with horns, gold, accolloed with a coronet and chained, gold; the 13th, a white hart, attired, gorged with a coronet and chained, gold; 14th, a white falcon within a fetter-lock, gold; 15th, a rose and stalk of gold, with barbe and leaves of the same; 16th, a white swan gorged with a coronet and chained, gold; 17th, a white falcon, crowned, and grasping a sceptre in the pounces of the right foot, gold; 18th, a woodstock, erased and trunked, gold; 19th, a sword and sceptre in saltire, gold, except the blade, which was proper: 20th, the royal oak, gold. All which badges (except those of the Colonel and eldest Captain) were ensigned with Imperial crowns of gold. And the seniority of the Captains was distinguished by these numeral letters, to XX. inclusive, painted in black on the dexter canton of the first quarter."

Nathan Brooks, 1684, corresponds with the above account. Of the 1st Company he describes the King's crest, "which is a lion passant, gardant, crowned or, standing on a crown or."

Harleian Manuscripts, 5,752, Royal Warrant, 15th September, 1680, for payment for two Colours for "Our Own Regiment of Foot Guards," under Colonel John Russell, includes white and crimson taffeta, painting badges with fine gold, painting figures in oil "the distinction," two pairs of tassels and two 2-colour staves with "knot-heads." Also for one Colour to Earl of Mulgrave's Regiment includes 4 ells of green, 2 of white, and 2 of crimson, painting two figures of distinction in oil, and a pair of tassels. This is also found in W.O. Records, Misc. Bks. The crown and cypher are copied from the designs for Colours in Harleian Manuscripts 6,815, quoted in Chap. XXIII., Note 1,210.

*Note.*—The First Foot Guards have in possession what purports to be the original draft of the Colours of the regiment. The King's Colour shows in the drawing only one € thus; but there is a second 3 reversed, roughly made in pencil so as to form the cypher. Sir Philip Smith, when in command of the regiment happened to show me this,

and told me that it was a tradition in the regiment that the pencilled C reversed was by the hand of Charles II. himself, who said that it would thus form a more elegant cypher. Sir Philip was unable, he added, to say which was actually adopted, and I had the pleasure of producing my illustration with its authorities in support of the regimental tradition.

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**AUSTRIA-HUNGARY.**—*Automobiles and Motor Bicycles for Army Service.*  
—On the 15th October last the Austrian Automobile Club organised a very instructive military automobile exercise, which proved most successful, in the terrain between Vienna, Traiskirchen (a little to the south of Vienna), and Tulin (on the Danube, and about 17 miles above Vienna). The *Danzer's Armee-Zeitung* gives details of this exercise, of which the following was the scheme:—

The cavalry division of a National Army, advancing from the south, recognises, on arriving at Purkersdorf, about 12 miles to the west of Vienna, the necessity of seizing the Tulin bridges as quickly as possible. The commander of the division, at about 8 a.m., at once despatched his motor bicycle detachment, accompanied by two automobiles carrying a machine gun and its ammunition, to that place. He then sent an order, by two orderlies mounted on motor cycles, to the approaching column (the head of which had just reached Traiskirchen) to send the motor bicycle detachments and all available machine guns to Tulin as quickly as possible.

The motor bicycle detachment of the cavalry division left Purkersdorf at 8 a.m. and arrived at Tulin at 8.59 a.m., in close column, and at a pace of 18 miles an hour. At 8.1 a.m. the two orderlies left Purkersdorf for Traiskirchen, where the first arrived at 8.52 a.m.—about 20 miles in 51 minutes. The order they carried put into motion: from Traiskirchen to Purkersdorf, a detachment consisting of 1 automobile carrying a machine gun, another automobile carrying ammunition, and an imaginary automobile carrying 50 riflemen; and from Traiskirchen to Tulin, a detachment of motor bicyclists. The *Danzer's Armee-Zeitung* gives the hours of departure and arrival of the various units. It is, however, sufficient to mention that the forces brought by automobile were so far successful that a scouting detachment posted at Tulin to retain possession of the bridges over the Danube, received the following reinforcements: at 9 a.m., a machine gun with ammunition and about 30 rifles; at 10 a.m., a machine gun, without reserve ammunition; at 10.30 a.m., 50 rifles; at 10.45 a.m., the reserve ammunition; and, finally, at about 11 a.m., 50 rifles.

Orderlies mounted on horses, or in requisitioned wagons, allowing for the perfect transmission of orders, and for all favourable circumstances, could not have reached Tulin from Purkersdorf till about 10.30 a.m. or 11 a.m., and from Traiskirchen until late in the afternoon. It rained hard for several preceding days in the Wienerwald, which occasioned great difficulties to the motor bicyclists. The exercises demonstrated that it is very possible to employ the motor bicycle, especially as a support to cavalry driven back, and that automobiles attached to cavalry divisions for scouting service alone may eventually serve as means of transport.

*Retention of Time-Expired Men with the Colours.*—The military consequences of the political crisis, which is passing over the kingdom of Hungary, are already apparent. The normal period for the release of



the class having arrived without the Pesth Parliament having sanctioned the raising of the new contingent, it has been found necessary to retain all soldiers of the time-expired class, who are Hungarian subjects, with the colours; the regulations of the recruiting law, which fix the 31st December, only, as the date of the termination of service in the Regular Army, allows the higher command to retain the men for three more months to keep the effectives up to strength, without having recourse to exceptional measures.

After this delay, if, as everything seems to predict, the contingent is still not voted, some steps will have to be taken. Most probably the same procedure will be followed, as was adopted two years ago, viz. : as regards the infantry, the time-expired men will be discharged and their places filled by men taken from the Ersatz Reserve; as regards the cavalry and special branches of the Service, the men whose time has expired, will be retained with the colours as reservists. The law lays down that "should special circumstances require," the men of the 1st Class Reserve may, in peace time, be called to serve in the Regular Army, who, nevertheless, should not be kept longer with it than their first year's period in the reserve; this regulation thus gives to the higher command, strictly speaking, the power of retaining time-expired men for yet another year with the colours. In 1904, in the mounted branches, they were retained in this manner until the 5th May, or  $7\frac{1}{2}$  months longer than their usual date of discharge. As regards the Ersatz Reservists (men in excess of the enrolled contingent, usually obliged to only undergo a training period of 8 weeks, and then to be called out three times for 4 weeks each), those men of the three junior classes may also, "under special circumstances," be called out for service with the Regular Army, commencing with the most junior class, no limit being fixed by the law with regard to the duration of this exceptional service.

It will thus be seen that the military authorities are thoroughly empowered to make good the deficit of recruits which is taking place. The ministerial circular of the 4th August, which authorises the retention in the ranks of Hungarian old soldiers, provided amply for the enrolment of young men of the 1905, who enlisted voluntarily, without waiting to be compelled to do so by the regular recruiting operations; in 1903 the number of these volunteers was fairly high, and although some Hungarian politicians have recently denied that the military authorities had the right to enroll them, it is impossible to see what serious reason there was to prevent them from doing so. It is, however, probable that the number of these voluntary enlistments will not be so large as in 1903; the political situation has completely changed during the last two years; then it was a small obstructive minority, generally disapproved by the country, which caused legislative impotence, and administrative disorder; now it is a strong majority, which is opposed to the vote and the levy of the contingent; it is natural that young men, liable to be called to the colours, feel the influence of this change of ideas and refuse to voluntarily second the Government action. Further, in 1904, it was decided that the military service of the recruits, only enrolled in the middle of May, should be reckoned as though it had commenced at the usual date, viz. : during the preceding October. At the present time, when they foresee, far more than two years ago, the prolongation of the political crisis, it would require a remarkable amount of sacrifice on the part of the young men of the Class to give an extra military service of several months when they can wait quietly till they are called up in due course.



Concurrently with the suspension of the recruiting operations in Hungary, the War Minister ordered, throughout the Monarchy, the abolition of the inspection of recruits' lists which habitually takes place in the autumn. The object of this annual inspection is the revision of the recruiting registers, at the seat of the civil authority, by a representative of that authority, assisted by a representative of the Army; all Reservists who have not been called to the colours during the year must, as a rule, present themselves before this inspection. Its abolition in 1905 is partially due to the Hungarian crisis; there is a fear, on the one hand, that on account of the bad disposition of the municipal authorities, the inspection could not be carried out under favourable conditions; and on the other hand, that the meetings might give rise to riotous manifestations and disorders.—*Revue du Cercle Militaire* and *Revue Militaire des Armées Etrangères*.

FRANCE.—*Military Training*.—On the 12th October last the War Minister issued the following circular on the subject of training:—

Preparation for war being the exclusive object of military training, and the conditions of the modern battle giving a capital importance to the personal qualities of the soldier, it follows, more than ever, that particular pains should be taken with individual training.

Combined training cannot, moreover, be profitably commenced before the recruit is sufficiently accustomed to military discipline, before he is sufficiently broken in, and until he possesses that professional knowledge indispensable for a soldier acting independently. This result will be obtained by giving primary importance to education and training in detail; this will be carried out quietly and methodically, according to rational progression, the development of which will be secured by the captain taking into consideration the climate, local conditions, and the results successively obtained. This progression, therefore, will only lay down the general lines to be followed, and the daily examination of the training will allow the company commander to regulate the work of tomorrow by the progress made to-day. It should not be lost sight of that the work of acclimatising and training to which the constitution of the young soldier is subjected, requires a certain amount of careful handling, especially at the commencement. **Overwork** is not only prejudicial to the health of the man, it also has an unfavourable effect on his *moral*, and, in consequence, on discipline; as a matter of fact, it retards instead of accelerating the progress of training. The programme, therefore, should not be absolutely rigidly laid down, whilst, at the same time, it should ensure the completion of the training in detail so that the man can take his place in the ranks at the date fixed.

Instruction in detail, being the basis of military training, should be carried out with precision and energy, but it would be a grave error to attempt to at once obtain precision and vigour in carrying out the movements. This can only be arrived at progressively by stimulating zeal, by encouragement, and by short but frequent rests.

Instructors should set an example by the correctness of their demeanour and of their dress, and try to be both very kind and very energetic. They should be made to understand that kindness by no means implies weakness, and that they can be energetic without being severe. The most necessary quality with them must, however, be patience, especially at the commencement. They should be watched to see that they refrain from annoying the recruits, and from accompanying their observations with threats of punishment. By such means it is certain that

more rapid results will be obtained, for roughness merely disgusts the men, and causes the Instructor to lose influence.

The exercises of the same drill should always be varied so as to interest the recruits, and to avoid lassitude and tediousness; this is one of the essential conditions of progress. Except in cases of absolute impossibility, the training should always be carried out outside the barracks. Work should not commence too early in the morning, and care should be taken to avoid chills, which might be caused by sudden stoppages and complete rest during exercises entailing violent physical exertion. When a man is indisposed on account of the cold, he should be made to take a hot drink. With this object the hospital should always have hot tea ready at the disposal of the sick. Should the manœuvre ground be too far from the barracks, the officer superintending the drills should if necessary make the necessary advance out of his own pocket, which will be at once paid back from the funds of the hospital.

The training of the inferior cadres will be carried out simultaneously with that of the troops, frequent recourse being had to exercises on the map, and especially to cadre exercises, in which everyone will be given the duties of his rank during the first months. These cadre exercises, which will at first be carried out by company, squadron, or battery, will tend to minimise the inconveniences resulting in certain garrisons from the lack of practicable ground for troops. The object to be attained will be to habituate non-commissioned officers and officers to make rapid decisions, to give clear and concise orders, and to make judicious use of the ground. Rambling statements will be carefully discouraged. Advantage will be taken of the exercises to accustom the cadres to take progressively, during the same manœuvre, the command of a superior rank. These exercises should be practised later, from time to time, during the manœuvres with troops. The cadre exercises will be practised before the commencement of the training; they will be allotted a number of varying drills according to the exigencies of the instruction in detail; but from the commencement of the company, squadron, or battery school, they will be carried out weekly.

In short, from the commencement of the training, all military commanders should concentrate their efforts upon the following points:—To direct instruction in accordance with scientific training based on the rational use and management of human capabilities; to transform the young men of the contingent into keen and smart soldiers fit to both morally and physically support the fatigues and privations of war; to maintain the cadres at the height of efficiency in peace and in war; above all not to lose sight that one of the essential objects of military service imposed successively on every citizen being to form Reservists soundly trained, and who will be thoroughly grounded by methodical preparatory training with a view to war, everything should be subordinated to this in the preparatory training in the instruction of recruits.—*Revue du Cercle Militaire.*

RUSSIA.—*Lessons of the War: Artillery Action.*—The long range, the rapidity of fire of the modern gun, its capacity for operating in narrow positions, and the small effect produced on earthworks and invisible objectives are the data which at the present time regulate the employment of artillery. All troops showing themselves in the zone of shrapnel action may suffer terrible losses in a few minutes, and artillery can nowadays operate at a range of over 5 kilometres. On the other hand, on account of its small explosive force, it causes no damage whatever to material objects. As regards common percussion shell,



its sphere of action is extremely limited on account of the difficulty of obtaining sufficient precision. Thus the essential task of artillery is the destruction of living objects. The habitual method of firing is by *rafale*<sup>1</sup> fire. There is no longer any artillery duel in the sense understood by this expression. A battery on which fire is directed is compelled to cease firing; when the enemy has fired some *rafales* on it, he stops to avoid waste of ammunition, and either ceases fire altogether or changes to deliberate fire. It is therefore impossible to annihilate artillery whose gunners are under shelter in trenches or behind shields. The object of the artillery fight is to hold the hostile artillery under the constant threat of *rafale* fire to prevent it from firing on the infantry or on any other moving objects. Very narrow positions, a good preparation for opening of fire, and a judicious organisation of observation make it permissible to retain several batteries available to act against the hostile infantry, or to concentrate their fire on a selected point of attack. Long range very greatly assists the concentration of fire, whilst at the same time making it unnecessary to mass the artillery in long continuous lines, which the enemy would quickly discover. There is all the advantage of distributing the batteries under shelter in the terrain and of spoiling the enemy's aim; in addition, this reasoned breaking up of batteries allows all portions of the ground in front and on the flanks to be better swept by fire.

Artillery can do nothing without a thoroughly well-organised observation service, conducted by officers and gunners personally scouting along the whole front and gleaning information gathered by the other branches of the Service; the telephone has, consequently, become indispensable to artillery for the transmission of information. Staffs should remember to forward all the information which comes to them on to the artillery. The Japanese organised their observation service to a most remarkable degree of efficiency, yet they nevertheless frequently fired on unoccupied zones. Commanders of batteries should see as much of the ground as possible so as to be able to show initiative, and even batteries themselves should see the country round. "The shields protecting them against shrapnel would in such cases render immense service." But artillery should be able to fire masked, and that often causes commanders of batteries or brigade divisions to be at a distance from their commands, when they can only communicate with them by telephone. In any case, all the terrain in front of the batteries must be seen by the battery observers.

To emerge from a zone known to the enemy and under his hot fire, recourse must be frequently had to small battery changes of position; these movements should be entirely carried out by hand and without being seen, otherwise they are useless. Changes of position in order to approach the objective are only permissible when one is over 3,500 metres from it. It is better for artillery to prepare the attack remaining on positions already occupied, so that the firing may not be interrupted. It would be better that the batteries advancing should be taken from the reserve, in order that they might, if possible, attempt to take the enemy in flank. When it is possible, naturally the position on which the attack must be prepared should be approached as close

<sup>1</sup>A term recently introduced into the French Artillery Regulations; is apparently intended to apply to a fire from a Q.F. battery maintained by all the guns on a given object, but not by word of command, with the greatest rapidity possible, at the same range, on an unprotected enemy on a front of about 150 yards.



as possible, as this will create a great impression; but this is not indispensable, nor is it always possible. When the enemy gives way, the artillery must be brought as quickly as possible on to the conquered position.

Firing over infantry is inevitable and frequent. It alone permits the artillery to avoid assembling in vulnerable masses; to utilise the whole range of the gun in concentrating the fire of the various batteries on the same objective, and to cause the artillery to be a constant menace to the adversary's movements. The commander of the troops distributes his artillery, points out to it the positions to occupy, and the general objectives; he keeps the artillery commander informed of the fortunes of the fight, gives him new duties, etc. The artillery commander distributes the various duties amongst his batteries, organises a system of observation along the whole front and flanks of his radius of action, so that he may be informed without delay of the appearance of favourable objectives. He superintends the supply of ammunition.

On visible objectives the most efficacious method of firing is that of the *rafale* of shrapnel. When the Japanese wished to reach masked objectives they directed a slow fire on the ground behind the position, preferably on points where they supposed the reserves, limbers, etc., to be, and fired a *rafale* as soon as they detected the slightest movement. The Russians, when firing against material obstacles, such as villages, trenches, etc., simultaneously employed percussion and time-fuse shrapnel.<sup>1</sup> When they were able to do so they combined the shrapnel fire from field guns with common shell fire from howitzers. The Japanese fired common and shrapnel shell simultaneously or alternately; the common shell to cause movement behind shelter and the shrapnel to, then, inflict losses.

The report is of opinion that batteries of 8 guns should be given up, and that 6 or even 4 guns per battery are sufficient. "If it is properly provided with ammunition, a battery of 4 guns can carry out all the duties usually confided to an 8-gun battery, for it was hardly ever necessary to resort to the maximum rapidity of fire. The 4-gun battery is less cumbersome and more mobile, and can adapt itself better to the ground." Good telemetres, good battery telescopes, and good field glasses are indispensable.

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*Lessons of the War: The Russian Soldier.*—The *Ruskii Invalid* continues its series of articles on the lessons of the Russo-Japanese War, and the present one deals with the Russian soldier himself:—

"In spite of the constant retreats of the Russians before the Japanese, in spite of the failure of the Russian offensive in October, 1904, and in spite of their evacuation of strongly fortified positions, the article declares that had any corps or regiment been asked if it had been beaten, it would have denied it to a man. This was the opinion of the majority of the officers, and was undoubtedly that of the mass of the men.

"Our soldier does not deserve any reproaches. He bore with inexhaustible energy all the fatigues of the campaign, the great heat, the awful mud, and the bitter cold; he lacked sleep, remaining firing for ten or twelve days at a time, and never ceased to remain capable of fighting. After having lost all his officers, in the absence of all proper supervision (at Mukden on the

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<sup>1</sup> It must be remembered that the Russians had no common shell for field guns.

10th March, 1905), he placed himself voluntarily under the orders of the first officer he met, and was ready to resume the fight. During and after the sternest fights, the soldier did not lose his coolness—he never lost his head; and in spite of reverses he never ceased to look upon himself as a better man than the Japanese, attributing his reverses solely to the fact of having been ordered to retire. The men of the Regular Army proved themselves greatly superior to reservists in action. Detachments of reinforcements coming from dépôts showed themselves to be but little trained and still less educated, and much had to be done to make them fit to join the companies. It must be laid down as a rule that dépôt cadres should not be composed of pensioners, but of absolutely competent and energetic officers and of efficient non-commissioned officers, who thoroughly know their work. Dépôt battalions should only furnish reinforcements to their own regiment. The reserve officers, unaccustomed for the most part to service with troops, cannot be sufficiently up to their work, and should not be entrusted with the supervision of the preparation of the reservists. This object is of far too great importance to leave to incompetent hands.

“The Russian soldier is accused of slowness, of a lack of desire to learn, and of want of initiative. These accusations are, in part, well founded, and the cause lies, on the one hand, in the lack of general instruction to the whole, and on the other, to the method of military education and training employed. The soldier himself is, nevertheless, naturally intelligent, capable of imagination, and shrewd enough to understand and carry out almost anything that is clearly explained to him. The non-commissioned officer is of the same stock as the private soldier, and is trained on the same system. Naturally he has the same faults, and is frequently unfit to take the place of the officer. But our officer who, in this war, as in preceding ones, has shown a high example of devotion, of indisputable gallantry and of love of duty, has not escaped accusations of want of initiative, of not comprehending situations, of a lack of decision and perception. The causes of these defects lie in defective general instruction, especially as regards military matters; and as resulting therefrom, from an insufficiency and want of grasp of the principles of military education and training.

“A second point brought to notice by the war is the insufficiency in the number of officers. On account of the long duration of the battles and the considerable losses in officers, this question becomes a very acute one if one reflects that few junior reserve officers or non-commissioned officer ensign candidates, as a rule, are capable of replacing the officers; the former because they are not sufficiently animated by the same spirit as the corps of officers, and are not well acquainted with the regulations; the latter because they are not sufficiently trained to it, and lack authority in the eyes of the soldiers. As regards reserve officers, a higher standard of military training must be exacted from them. They must be called out every three or four years, or oftener, if they prove incompetent. In the field they should only be utilised in the units to which they belong, and commanded by Regular officers. When they are left to themselves on duty on the lines of communication, they cannot be sufficiently supervised.”

The war has also brought to the front the non-commissioned officer question: “It is absolutely necessary that their training, with a view to making them competent to replace officers, should be of a more thorough nature. It is not rare to find amongst them excellent fellows capable of leading small bodies. But the raising of the capabilities of our non-commissioned



officers can only be solved by the improvement in the education of the nation. The natural qualities of the Russian, both in the educated classes as in the masses, are such as would greatly facilitate this work and accelerate the results; these qualities are adequate intelligence, natural sagacity, a spirit of enquiry, sincerity, and confidence."

In brief, all the cadres should have a more extended training. Only a knowledge of one's profession can ensure judgment, shrewdness, and reasoned initiative. "It has always been indispensable, but at the present time, with such vast Armies, the vital importance of training has still further increased. In our days the success of operations, in an enormous degree, depends on the intelligent and conscientious initiative of subordinate commanders. Their incapacity to realise the situation renders impotent the most brilliant conceptions of the commander-in-chief."

*Lessons of the War: Subsistence.*—The daily ration of 1 lb. of meat per day proved insufficient. It is of advantage to divide it into two meals:  $\frac{3}{4}$  lb. for dinner, and  $\frac{1}{4}$  lb. for supper. The frozen meat, coming from Siberia, and issued by the commissariat, was excellent, and even preferable in quality to the fresh meat obtained on the spot. When the flour is of good quality and properly sifted, the daily bread ration per man may be fixed at  $2\frac{1}{4}$  and even at 2 lbs. It would be as well if the biscuit was baked in a similar form to ship's biscuit, which are less liable to break up and get dirty. The tea and oatmeal rations were sufficient. It would be well, so as to give some taste to the rations, to include 10 head of onions, 10 cloves of garlic, and 4 to 5 pods of red pepper, per 100 men, in the daily rations.

The bread was made sometimes by the troops themselves, sometimes by the commissariat, and, in the latter case, by means of the mobile field bakeries. The commissariat bread was not always of good quality. "Its issue in good time greatly depended on the personality of the commissariat officer of the army corps; when there was less red tape and more zeal, there was always bread forthcoming." Whilst certain army corps lacked bread, others had always enough over to give to neighbouring corps. Regiments could only bake bread themselves when they remained long enough in a place, and if the commissariat provided them regularly with flour. The bread thus baked by corps was always of better quality than that issued by the commissariat.

The field kitchens acted perfectly, and rendered the greatest service. "With fights lasting a very considerable time, as was the case in Manchuria, it was only by means of the field kitchens that the possibility of giving the men dinner and supper at the right time, was ensured. Thanks to them it was possible to distribute hot meals to the men, even to those in the firing line, during a fight." The mobile kitchens were brought up as far as the reserves or supports, and the food was transferred from them to small casks which were carried on further by donkeys. On fighting days, one hot meal only was cooked, consisting of from 1 lb. to  $1\frac{1}{2}$  lbs. of meat per man, which was issued at night fall. The strength of the kitchens was fully proved as after a year's continual use only small repairs were necessary. "On good roads the 4-wheeled kitchens are easily drawn by 2 horses, when the roads were bad the number of horses had to be increased or 2-wheeled vehicles used. It is beyond discussion that mobile kitchens should be made regulation, one being issued to every company or administrative unit, with one in reserve."

Experiments were made from time to time, in divisions, in preparing the food in single camp kettles, but this practice should only be regarded



as an occasionally necessary evil. It leads to marauding by the men in order to procure wood, vegetables, etc.; it renders continual supervision necessary in order that the men may really cook the food; and finally it requires far more wood and takes up far greater time. Single camp kettles were principally used for the preparation of tea.

The horses did very well on forage substitutes, and these substitutes were not dangerous if given gradually; millet, as well as its straw, were consumed without inconvenience. The regulation rations of hay and oats, as a rule, proved sufficient. The millet straw should be given preferably chopped up, and the horse eats it more readily if sprinkled with a little salt.

"Thanks to the fact that the harvest had not been gathered in Manchuria in 1904, the Russian troops were able to gather considerable resources from the country, which greatly facilitated the question of supplies. Thus for four months the Army was able to draw supplies on the spot between Tieling and Mukden, and for another two months from the zone occupied after the evacuation of Mukden. As a matter of fact, with a better administrative organisation the resources might have lasted for a considerably longer period. Requisitions with the aid of the local civilian authorities were not resorted to by us on account of our ignorance of the Chinese language, of lack of confidence on the part of the inhabitants, the knavery of the interpreters, and the powerlessness of the Chinese authorities."

In pronouncing judgment on the commissariat service, account should be taken of the exceptional difficulties under which it laboured. "It should be admitted without question that nothing should be brought up from the rear but what is indispensable and impossible to procure on the spot. But as the corps were not in a state to procure necessities by their own exertions, it resulted in the necessity of considerable effort on the part of the administrative departments, and especially on the part of commissariat officers of army corps. The results obtained are a certificate of the value of the working of the commissariat, which should free itself from all red tape methods. Corps did their utmost to facilitate the work of the commissariat. Regimental transports had frequently to make marches of from 23 to 35 miles to obtain supplies, and it was not their fault if sometimes, after having been sent for by the commissariat officer, they had to return empty. It sometimes happened that articles actually in store were refused to corps for reasons of mere formality, such as want of an official stamp, non-agreement with the daily state, etc., and that those stores were frequently afterwards burnt on account of a retreat." Instead of, as is now the case in the Russian Army, recruiting the commissariat officers from those of the combatant branches, the Report is of opinion that a considerable improvement would result to the *personnel* if it were "recruited from amongst functionaries of larger views, and who belonged to that department."

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*Technical Matériel of the Engineers.*—The same number of the *Ruskii Invalid* deals with this subject from the experiences gained in the recent war: The telephone rendered the very greatest service, and acted remarkably well. The training of telephonists presented no difficulties, either in the infantry or in the artillery. Experience has shown that corps cannot be left to provide themselves with telephones at their own cost. They should all be of one pattern, and be the property of the Government; 3 or 4 stations and about 5½ miles of cable per regiment; 3 or 4 stations and about 3 miles of cable per brigade, division, or isolated

batteries. A telegraph company, capable of laying down about 43 miles of line, should exist in every army corps; it would suffice for its requirements, provided it were held entirely at the disposal of the army corps commander. It has frequently occurred that the army staffs have taken away their telegraphists from army corps.

The Russian troops were inadequately provided with telephones during this war, although nearly all regiments had bought them from their own funds. The telephone is absolutely indispensable for the interior requirements of corps and for linking them with their own and the neighbouring brigades and divisions. It is not a good thing that they should be too liberally given to the higher authorities, as the latter have then a tendency to wish to know and to direct everything, frequently giving contradictory orders, and encroaching on the initiative of their subordinates.

There should be a captive balloon per army corps, and it is essential to always have at hand the necessary requisites for inflating it. At the beginning of March, in the middle of the battle of Mukden, a balloon battalion had to cease work for want of gas. Otherwise the balloons rendered good service, and observation from them was easy.

The Russians did not use search-lights throughout their winter stay on the Sha-ho. There were several mounted on wagons at the station of Khau-chen-pou, but they were not under the orders of the commander of that sector, and rendered no service whatever. These engines should be under the orders of the army corps or division commanders of the sector in which they are placed. The Japanese used search-lights during nearly the whole of the dark winter nights, and thus greatly interfered both with the works on the Russian positions and the enterprises of Russian Volunteers.

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*Casualties in the Russian Army.*—The following extracts are taken from the report of Colonel John Van R. Hoff, Medical Department, military attaché with the Russian Armies, Manchuria:—

No. I.—The movement of sickness and wastage (from death and disability) among all grades of the (Russian) Manchurian field armies and services in rear of the same due to wounds and disease from 28th January (10th February), 1904, to 1st September (14th), 1905, exclusive, of Port Arthur is as follows:—

Wounded	Sick.		
3,393	7,445	Officers.	Sent to hospital.
110,362	230,027	Men.	„ „
54	14	Officers.	*From wounds and sickness.
479	185	Men.	„ „
	22	Officers.	*From sudden death.
	431	Men.	„ „
147	125	Officers.	Died in hospital.
2,861	4,665	Men.	„ „
8,237	16,018	Men.	Discharged for disability.
1,755	3,711	Officers.	Returned to duty.
57,037	111,142	Men.	„ „
1,461	2,585	Officers.	Evacuated (transferred).
41,635	74,713	Men.	„ „
30	1,024	Officers.	Remaining in hospital.
378	22,664	Men.	„ „
214	825	Men.	Remaining in convalescent institutions.
			*Died with organisation.

The foregoing table includes every case that appears on the hospital registers of the Armies, for which the Medical Department became responsible, together with 1,185 cases of sudden death, making a grand total of 352,412 cases. Of these, 8,983 died, 24,255 were discharged for disability, 120,394 were transferred to hospitals west of Lake Baikal, 173,645 recovered, and 25,135 remained under treatment. Total, 352,412.

I have no official writing as yet showing the mortality among the cases "transferred." This, with additional statistics, was promised, but I was told that the total mortality from disease was 13,830. Deducting the 5,442 deaths accounted for in the foregoing table from the number given by the statistical officer, and there remain 13,388 deaths which must have occurred among those "transferred"—a rate of 173 per thousand. As only serious cases were as a rule sent away from the Army, this rate, though high, may be regarded as not excessive. This deduction is, of course, open to correction.

*No. II.—\*Losses (Russian Army) during the war by month.*

1904.	Killed.		Wounded and contused.		Died of Wounds.		Missing.	
	O.	M.	O.	M.	O.	M.	O.	M.
February ...	—	4	—	2	—	—	—	—
March ...	1	8	4	16	—	5	1	3
April ...	26	623	50	1,130	—	12	4	474
May... ..	4	56	16	285	2	31	6	71
June ...	19	668	133	2,926	2	73	23	1,166
July ...	27	974	189	5,350	12	113	19	928
August ...	91	2,243	477	15,379	26	326	18	1,957
September...	107	2,433	474	16,847	23	232	23	2,308
October ...	83	1,842	406	13,511	22	530	18	2,526
November ...	2	98	21	708	6	91	1	28
December ...	11	140	59	704	12	59	—	63
1905.								
January ...	49	1,670	378	10,746	23	212	25	1,277
February ...	233	7,638	1,455	47,272	35	640	282	28,156
March ...	7	181	40	1,165	20	659	—	225
April ...	—	103	13	483	1	206	1	58
May... ..	4	68	10	341	7	88	—	28
June ...	3	51	24	405	7	41	—	40
July ...	—	—	11	287	3	16	—	—
August ...	—	—	19	150	—	6	—	—
			(1)	(2)		—		
Total ...	667	18,800	3,779	117,707	201	3,340	421	39,308

\*Exclusive of Port Arthur; (1) Of these officers 386 remained on duty; (2) Of these men, 7,345 remained on duty.

The foregoing table accounts for 184,223 cases, of which 19,467 were known to be killed and 3,541 died of wounds. Total: Killed, 23,008; wounded, 121,486; missing, 39,729.

The extraordinarily large proportion of missing is accounted for by the fact that the Russians withdrew from every battle-field and left their dead to be buried by the Japanese, and as there were no means of identifying the Russian dead, there was nothing for the Japanese to do but bury them as "unknown," and for the Russians to carry them as "missing." It is not to be presumed that any considerable number of the Russians deserted to the enemy. They could hardly expect a hospitable reception from the Chinese, and they could not get home, so it is safe to assume that practically all "missing" Russians were buried on the battle-field.



As this fact is not susceptible of absolute proof in making my estimate of "killed," I shall have to depend upon the statistics of other wars to reach a reasonable basis of calculation; but before proceeding to a discussion of this question I will submit the following table of Russian losses by battles:—

Place and date.	Killed.		Wounded and contused.		Missing.	
	O.	M.	O.	M.	O.	M.
Turencheng—						
April 17-18, '04 .....	28	564	38	1,081	6	679
Wafangkzu—						
May 31—June 1-2, '04...	18	459	85	2,155	10	754
Siao Kao-lin—						
July 4-6, '04 .....	8	215	37	1,069	2	224
Tashichiao—						
July 10-11, '04 .....	4	141	30	646	3	107
Yantselinsk Pass—						
July 18, '04 .....	10	349	42	1,192	2	219
Liao-Yang—						
August 11, '04 .....	87	2,027	414	12,486	10	1,461
Sha-ho—						
Sept. 25—Oct. 5, '04 ...	190	4,894	861	29,531	35	5,838
Sandepas—						
January 12-16, '05 ...	49	1,670	378	10,746	25	1,277
Mukden—						
Feb. 11—March 1, '05	233	7,638	1,455	47,272	282	28,156
Lesser battles and skir.—						
	42	843	439	11,529	46	593
Total .....	667	18,800	3,779	117,707	421	39,308

The "strength" is given on the authority of General Kuropatkin, who stated the number of bayonets as follows: Liao-Yang, 135,000; Sha-ho, 145,000; Mukden, 290,000. I have added 16 per cent. to these numbers to cover the other arms engaged, making a total of 661,200, viz., Liao-Yang, 156,000; Sha-ho, 168,200; Mukden, 336,400.

Assuming that the proportionate losses at the battles of Liao-Yang, Sha-ho, and Mukden are a fair index to the proportionate losses in other battles, it is not difficult to deduce the real strength of the Russian Army in every battle, nor to arrive at a reasonable conclusion as to proportionate losses. The total casualties in the specified battles are 21.45 per cent. of the strength given by Kuropatkin. Of this total, 10.5 per cent. were killed, 64.5 per cent. were wounded, and 25 per cent. missing, or 1 killed to 2.5 missing to 6.5 wounded.

The statistics of the German Army in their war of 1870 show a loss of but 4.12 per cent. of the total force engaged, of which 0.75 were killed, 2.83 wounded, and 0.54 missing, or, roughly, 1 missing to 1.5 killed to 5.66 wounded. If, then, we assume the German figures as proportionately applicable to the Russian Army, we must take from the "missing" and add to the "killed" enough to make the proportion of 1 to 1.5. By reference to table No. 1 it will be seen that 3,541 cases of wounds died in hospital, and it is more than likely that a proportionate number of the 13,388 "transferred" cases died from wounds; but of these I have no record, and will leave them out of consideration in this report. Add the 3,541 wounded cases to the 19,467 killed and the total dead from the

"legitimate results of war" is 23,008, or killed and missing, 62,737, of which we may assume from German experience that 37,642 were killed, making a total of 37,642 killed, 121,486 wounded, and 25,095 missing; in all, 184,223.

I find it difficult to believe—assuming all the Russian prisoners in the hands of the Japanese to have been identified and reported, which I understand is the case—that 25,095 "missing" Russians are still in the land of the living. Yet this seems to be the only acceptable basis on which to work, and I will therefore adopt it.

By reference to table No. 1 and comments thereon, it will be seen that up to 1st-14th September, 1905, 18,830 soldiers had died from disease, which is almost exactly one to two dead from battle injuries. It may be safely assumed that this proportion will not vary by more than a small fraction when the final statistics are compiled, and it stands as the best sanitary record up to this war.

It may be of interest to compare these statistics with those of the Japanese Army given by Major Seaman in the *Review of Reviews*, November, 1905, p. 584: 4th February to May, 1905—43,892 killed, 145,527 wounded; total, 189,419; died in hospital from wounds, 9,054; from disease, 11,992; total deaths from wounds, 52,946; from disease, 11,992. The Russian losses by arms of the Service were as follows:—

Arm.	Killed.		Wounded and contused.		Missing.		
	O.	M.	O.	M.	O.	M.	A.
Infantry .....	602	17,873	3,246	111,309	379	37,789	84.4
Cavalry .....	20	366	159	2,060	20	395	5
Artillery .....	29	427	310	3,671	15	748	7
Engineers .....	4	34	42	282	2	126	3
Frontier Guard .....	10	98	15	342	3	196	0.6
Other Services .....	2	2	7	43	2	54	
Total .....	667	18,800	3,779	117,707	421	39,308	

A, proportional strength of fighting effectives; per cent.

"Other services" embrace the non-combatant branches, the strength of which is 10 per cent. of the fighting effectives.

The military population which furnished the foregoing statistics has been variously estimated and generally over-rated until after Mukden, since which battle it has probably been under-estimated by all except the two most interested nations. I have no statistics as to the Russian strength before the date of my arrival in the Far East, but I have the unofficial statement of General Kuropatkin, which may be accepted as authoritative. He says—the reasons are not here necessary to enumerate—that "in spite of our (Russian) apparent superiority in number of battalions, we were always numerically inferior to the enemy. Thus at Liao-Yang we had altogether 135,000 *bayonets*, at Sha-Ho 145,000 *bayonets*, and at Mukden between 275,000 and 290,000—the exact figure has not yet been determined. In spite of this we took the offensive from Mukden, well knowing that the enemy was superior in number." Add to the foregoing 16 per cent. to cover the other combatant forces present in these battles, and we find that the Russians had at Liao-Yang 156,600; Sha-ho, 168,200; Mukden, 336,400. On 20th August, 1905, the combatant strength east of Baikal was 870,000. On the 2nd October, 1905, the total strength of the Russian forces east of Baikal was: In the field, 729,000; Etope and Nav, 112,000; Pre-Amur District, 116,000; *en route* from Russia, 80,000;

total, 1,037,000; add 10 per cent. for non-combatant services in the theatre of war—95,700=1,132,700.

From these statistics it would appear that during the year 1905 Russia sent to the Far East nearly 800,000 soldiers, or an average of 100,000 per month, and at the time of the declaration of peace had assembled an army numbering more than 1,100,000 men, almost every one of whom had been transported over a single track railway for more than 5,000 miles. In comparison with this, the logistics of all previous military undertakings pale into insignificance. — *La France Militaire* and *U.S. Army and Navy Journal*.

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## CORRESPONDENCE AND REPLIES TO QUERIES.

“THE SECOND AFGHAN WAR.” BY COLONEL HANNA.

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*To the Editor of the JOURNAL OF THE ROYAL UNITED SERVICE INSTITUTION.*

Sir,—In reading this book one cannot help being struck by its superabundant wealth of adverse criticism. Nearly everything done by us, political or military, seems to have been wrong. Sometimes the author states what should have been done, in his opinion; in the case of the Peiwar Kotal, which I propose to single out in this letter, Colonel Hanna seems to propose action, or, rather, inaction, of something like the kind that led to Maiwand.

Let it be said first that Colonel Hanna has most of the facts; that his description of the topography of the Peiwar Kotal and its surroundings is decently clear. The elevation given of the hills about the place is illuminating; but it is a pity he did not mark on the *plan* the position of the “Devil’s Punch Bowl” and the “Crow’s Nest,” for the narrative of the march that brought Cobbe, with the 5th and 29th P.I., into the “Bowl” is not of the clearest.

I shall assume for brevity’s sake that the readers of this letter are either well acquainted with the action under review or that they will read it in Hanna’s book, or in Shadbolt’s, or in Lord Roberts’s, *i.e.*, I shall not indulge in a regular chronicle of the proceedings.

Our author, having brought his narrative up to 28th November, 1878, and described the “reconnaissance in force” of that day, thus “observes” :—“General Roberts, in his despatch of 5th December, calls the operations of the 28th November a reconnaissance in force; but, looking carefully at all the events of the day, and taking special note of the order given to Cobbe to attack and follow up the enemy, it is impossible to accord to them this misleading name. It is contrary to all military precedent for a commander to make a reconnaissance with the whole of his force, including guns on elephants: and no general would direct his subordinates at the end of a 21-miles march to attack with hungry and exhausted men an unknown enemy in a position of extraordinary strength, except in the hope of snatching a success.” This is criticism gone mad.

General Roberts had reiterated reports from spies that the Afghans had failed to get their guns up the Kotal; he had sound justification for believing that the Afghans reposed great faith in the power of their artillery, which was manned by excellently trained gunners and plentifully



supplied with ammunition. The general can therefore hardly be blamed if he held there was an off-chance of the enemy failing to hold the Kotal tenaciously, if it proved to be true that their guns were still bogged at the foot of the pass. Let Colonel Hanna imagine what would have been the commander's feelings if, having not pushed forward Cobbe and Thelwall, he had afterwards learned that on that night the enemy had extricated their artillery and got it into position.

The "misleading name" criticism strikes the writer as nonsense. In what sense was the reconnaissance being made "with the whole of his force"? Cobbe's column—the left of the advanced guard—comprised a squadron, 2 mountain guns, and half a native regiment; Thelwall's—the right of the advanced guard—was of the same strength. These were not sufficient for a reconnaissance in force; it was eminently advisable to accept the chance of killing two birds with one stone, viz.: to get the guns and to press the pursuit of information as far as possible. The troops were marching light, with only seven days' supplies, and time was important. So the main body sent forward out of its 7 battalions and 4 guns, 2 battalions that followed up Cobbe and 2 that joined Thelwall. Cobbe certainly had to be extricated from an awkward situation in the "Punch Bowl"; but two important things had been learned: the guns were not lost to the enemy, and the Kotal and its vicinity looked like the main Afghan position.

Is the name "misleading" because the whole force was in motion? Should General Roberts have halted the main body at Habib Kila or Peiwar, in order that he might call the movement a reconnaissance in force "in accordance with all military precedent"? Has nobody ever made a reconnaissance in force with the possibility of its becoming a battle? Cobbe was ordered to seize a village about a mile from the pass and to follow up closely any body of troops he might come across; in what other way can orders be given to the leading party of a reconnaissance in force? The duty of such a party is to push aside moderate opposition, and only give up the advance when something too formidable is met. Cobbe missed the village and got into the "Punch Bowl," it is true, and had to be extricated with some show of force; but what detachment, especially in such a country, is safe from accidents?

The camp chosen for that night *was* in a dangerous spot, but the force was certainly by now "exhausted and hungry," and to retreat immediately after an adverse skirmish from the presence of an Afghan foe in a country of wild ravines, inhabited by wilder tribes, who were simply waiting to see which side would win, would that have been wise? Safety from being overlooked could only have been obtained by retreating several miles towards Kuram; the retreating troops would have met, and would have had to turn back, a long line of scratch transport. In the gathering darkness the confusion would have been dreadful; the native transport drivers, seeing retreat, would have lost what little heart they had for the business. Many of those stores would never have reached the chosen camp, and the neighbouring hillmen would have had a good time.

Colonel Hanna quotes in a footnote from Major Colquhoun's "With the Kuram Field Force" on this matter of the camp. The hypotheses that lead up to disaster are too many to be very convincing:—"If, knowing the range as they did (*sic*), and being in an inaccessible position, they had waited till the camp was pitched at Turrat, and had commenced to shell it with all their mountain guns after dark had set in, . . . . Nothing could have been done except to withdraw from the camp. . . .

The camp, with all the bedding and baggage, might have been burned down . . . .” Now there is nothing to show that the Afghans had more than one mountain gun within range of the camp, the nights were dark, and the Afghans were not prone to night work. “Nothing could have been done?” Have we no Goorkhas who could be trusted to steal up in the dark and deal with that gun, whose flashes would be plainly visible?

The front of the Peiwar Kotal position having thus been compelled to yield some of its secrets, more extensive reconnaissance was initiated. Colonel Perkins, R.E., was entrusted with the exploration of the spur that apparently sprang from the Peiwar ridge on the proper left of the pass and pushed out along the east side of the valley leading from the camp to the pass. It was found that this spur was not continuous, but was separated from the main ridge by a deep valley (*vide* Map, Plate 2).

To Colonel J. H. Gordon was allotted the searching out of the S.E. portion of the main ridge. He concluded from his observations that the ridge was continuous to beyond the portion held by the enemy, *i.e.*, that it was favourable for a turning movement.

Major Collett, accompanied by two officers of the Survey, examined the country in the Spin Gawai direction. They reported that this pass was practicable, and that it seemed as if the main ridge, from the so-called Spin Gawai Plateau to the Peiwar Kotal, was continuous.

Colonel Hanna, in his determination to criticise, puts the matter thus:—“Colonel Gordon was satisfied . . . . that the southern spur . . . . was favourable for a turning movement—an opinion which proved to be well grounded.” “The third reconnoitring party . . . . also brought back a favourable report; but in this case the judgment formed by Major Collett” (why omit the skilled Survey officers?), “based as it was on a bird’s-eye view of a very rugged and thickly-wooded country, was vitiated by several errors.”

The error of importance was that the main ridge was not smoothly continuous on this side, but was cut across, within less than half a mile of the Peiwar Kotal, by a precipitous chasm, on the left of which (if we speak of a force coming from the Spin Gawai) was the deep valley which Colonel Perkins had found to sever his spur from the main ridge.

Is there any reason why the commander should accept the correctness of the suppositions of Colonel Gordon rather than those of Major Collett? Neither, unless backed by adequate force, could push along to within half a mile of the pass, so as to see everything. The enemy’s best line of retreat being by Zabardusht Kila, *i.e.*, behind his right, it might be expected he was keeping in force on the right of the pass—the side on which Colonel Gordon had reported—rather than on the left. Moreover, a turning movement on the enemy’s right would, if unsuccessful, have laid open the line of retreat to hostile enterprise much more than a turning movement on his left. The bold position of the camp, also, would tend to take away suspicion from the Spin Gawai direction, for a march to the latter would mean a retrograde movement first to the village of Peiwar.

And, in fact, the Spin Gawai itself gave not much trouble, and the 1,200 leading men of the turning force who had taken it pushed on towards the pass. It is a matter of history how the regiments, with General Roberts at their head, came upon the chasm and could make no further direct progress. Colonel Hanna would apparently have had him then march his men back to camp! The whole moral effect of the progress so far would have been lost, and worse than lost. These troops had been on foot since ten o’clock the previous night, and it was now past noon. Half of them had been fighting since 6 a.m.; a retreat of 10 or 12 hours’

duration would have been a direct incentive to the enemy. Colonel Hanna says that General Roberts was now in great anxiety. This is not unnatural; so was Napoleon when things were going badly at Marengo. But these commanders were of tougher fibre than the common. General Roberts plunged off again to his right, having discovered a fairly easy route by that way towards the rear of the Afghan main position. Colonel Hanna's "observations" simply call this move: separating himself still further from his frontal column and his camp. Its moral effect is completely ignored. Uncivilised armies have always been notoriously sensitive about their line of retreat. Already General Roberts's proximity to the Kotal had probably caused unpleasant qualms to the Afghan commanders. When they saw him establish the 2nd P.I. on his side of the chasm and feel out towards his right with the rest, they concluded it was time to go. How else can the conspicuous slackening of the fire against the frontal attack be accounted for? Two of the latter's guns had certainly found the Afghan camp, and could reach it with their projectiles; but this was a piece of extraordinary and unforeseen luck, just as the chasm in front of "Picnic Hill" was a stroke of bad luck.

Thus was this strong position taken, with a loss of only 2 officers and 19 men killed and 72 wounded—less than 3 per cent. Most of the Afghan guns were captured, and great quantities of ammunition and stores, and their loss in men was great.

Our author is not content with this. In his "Etat de Situation of the Kuram Field Force on the night of the 2nd December, 1878," he looks only at the discomfort of the men, the troops furthest from the direct road being described as "bivouacking without food or shelter or warm clothing." Surely he might have added: "but on the right side of the 'almost impregnable' position"; and surely an uncomfortable night's bivouac is not an unheard-of outrage.

Further "observations" by the author read as follows:—"The march to Zabardusht Kila was as ill-advised as the turning movement by the Spin Gawai Kotal." "From a political as well as from a *general* military standpoint, General Roberts's aim, on discovering that the Peiwar was strongly held by the Afghans, should have been to facilitate the advance of the Khyber Force by keeping the largest possible number of the Amir's troops at a distance from Kabul. . . . Nor has he shown any *local* military necessity for attacking these troops in an almost impregnable position."

So he thinks the commander "should have manœuvred to draw them down from their fastnesses, as Lord Kitchener drew the Dervishes from their stronghold at Omdurman"; but he does not say where the stand should be made—whether in the condemned camping-ground near Turrai, or by retreat to the Kuram forts. A retreat like this, before the enemy had had his lesson, would have had a very bad effect throughout the whole border country; and what was to prevent the Afghans, when the time approached when the high passes would be blocked with snow, from slipping off to Kabul with their guns, if they were wanted there? By acting as he did, General Roberts had those guns, showed the Afghans that even the Peiwar Kotal was not impregnable, and produced some moral effect on the tribes in the vicinity.

Would it be no advantage, in view of a possible future advance on Kabul, to have pushed the Afghans back to the Shutargardan Pass? That pass would be at once untenable against the Kuram Force as soon as the Khyber Force got through, but not so the Peiwar Kotal.



The dragging in of Omdurman does not help the argument, as the cases are far from parallel. In the Soudan there was one "British" force and one hostile force, and Omdurman was the enemy's last stronghold. There was no doubt but that the frenzied warriors of the Mahdi would come out on our appearance, and thus deliver themselves into our hands on the open ground. Of course, Lord Kitchener let them come, but when the same general, on his way up the Nile, found the entrenched zariba, he attacked and took it. In both cases failure to do this promptly would have confirmed the hordes of waverers against us. Was General Roberts to recoil after the *contretemps* of the "Punch Bowl," and allow himself to be invested in an Afghan valley many marches from British territory? In such country and among such people you must either refrain from entering, or you must fight until no enemy remains within reach with arms in his hands.<sup>1</sup>

Colonel Hanna quotes Napoleon freely, but phrases of his, concise as epigrams, must be handled with greater care. Taken without consideration of the circumstances to which they apply, it would not be difficult to cite *dicta* that sound like mutual contradictions. But one dictum of the great Master of War may be taken by itself, and is eminently applicable to the case under discussion:—"In war, the moral is to the physical as three to one."

I do not suppose that Lord Roberts needs my defence or that of anyone else. My object is to warn students of war against the sort of criticism that abounds in this book—so wholesale that one is tempted to call it the very mania of criticism.

H. M. JOHNSTONE, Captain, R.E. (Ret.)

Military Lecturer to Edinburgh University.

GEORGETOWN, DEMERARA.—*Query No. 7.*—What is the latest and most approved appliance for the carriage of the carbine by mounted forces; not necessarily the Service pattern?

A.—After having tried every possible method, it is believed that the system now universally adopted for the mounted infantry and in use by most Imperial Yeomanry regiments of carrying the rifle and the carbine is the best. The equipment is a web sling (buff can be used, but web is better) and the ordinary Namaqua rifle-bucket. The bucket should be carried high and as close to the saddle as it will go, like a shoe-case, and the supporting straps should be shortened for this purpose. The method of carrying is very clearly laid down on pp. 23 and 24, "Mounted Infantry Training, 1904." Many British cavalry regiments and Royal Artillery carry the rifle this way. Its advantages are:—

1. The man cannot part company with his rifle.
2. He cannot lean on it in the bucket, and thereby give his horse a sore back.

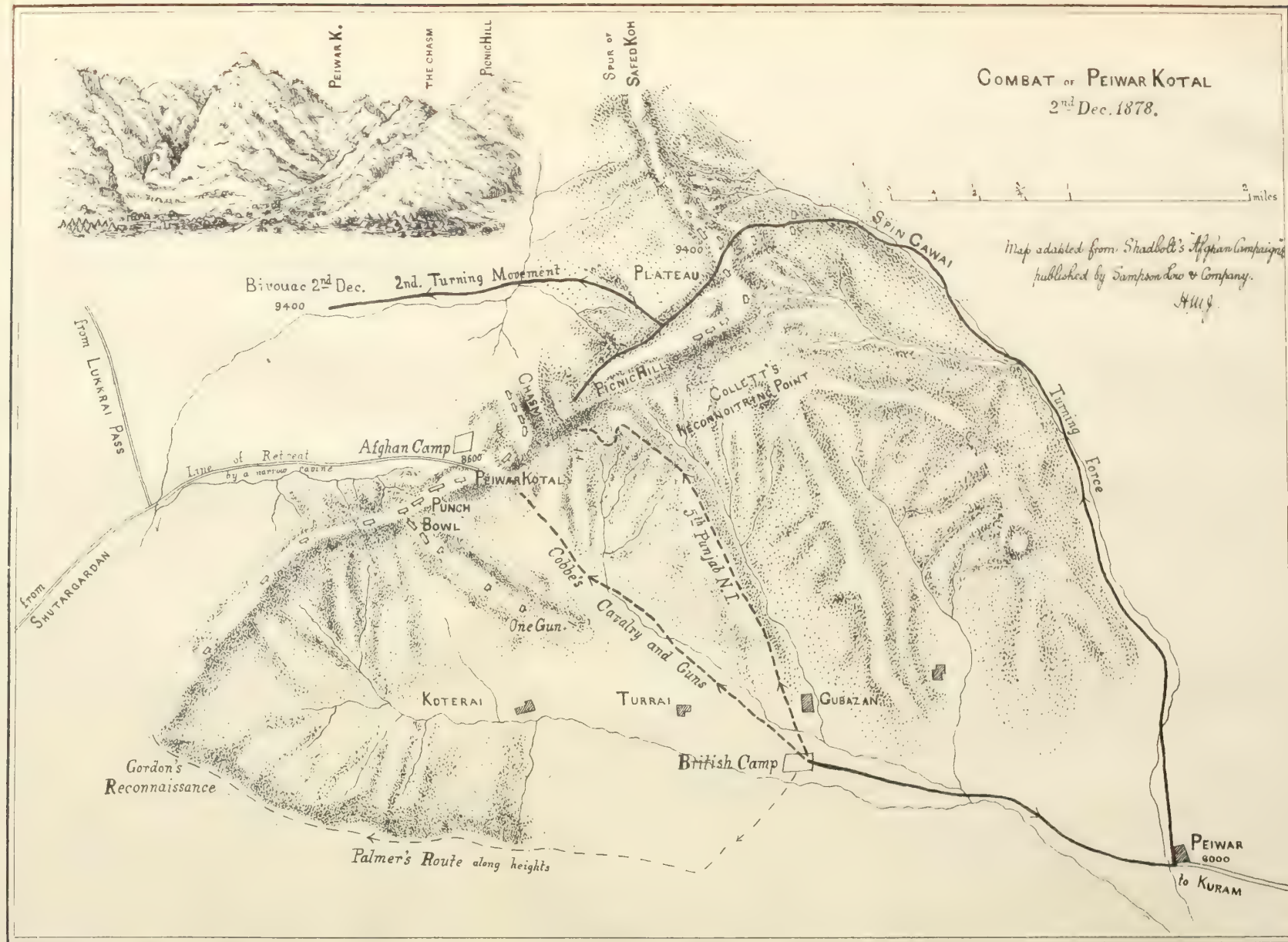
<sup>1</sup> Had the Kuram Force found itself alone in front of Kabul, charged with the mission of striking the final blow, the situation would have been akin to that of Omdurman. No doubt General Roberts would then "have manœuvred to draw the enemy out" from the city, rather than commit himself to street fighting against outnumbering foes. But in both cases, if the enemy had declined to be drawn by manœuvring, both generals would doubtless have done their best to shell them out.



# COMBAT OF PEIWAR KOTAL 2<sup>nd</sup> Dec. 1878.

Map adapted from Shadbolt's *Afghan Campaigns*  
published by Sampson Low & Company.

H.M.G.





3. It has all the advantage of the slung rifle without the discomfort to the man. The men of the mounted infantry state that if the sling is tight enough to prevent it bumping on the back it is the most comfortable.
4. Bucket galls are unknown.
5. The man has both hands free to ride his horse.
6. The weight is divided by the man and the horse by the bucket taking the weight of the rifle and thereby raising the pressure off the man's shoulder.
7. A man can mount and dismount without handling his rifle.

The only disadvantages are: the soldier is liable to knock his head-dress off in slinging and unslinging (but this is easily overcome), and also is liable to injury when falling with his rifle; but experience shows that the serious casualties on this account are very limited.

Colonel Patterson's equipment has been adopted for the Indian cavalry, but it is expensive, and has practically been rejected for the mounted infantry. There is, however, much in its favour.

## NAVAL AND MILITARY CALENDAR.

DECEMBER, 1905.

- |      |        |   |
|------|--------|---|
| 1st  | (F.)   | 2nd Bn. Rifle Brigade arrived in India from Egypt in the "Assaye."  |
| 2nd  | (Sat.) | Launch of first-class battle-ship "Pommern," from the Vulcan Yard, Stettin, for German Navy.                        |
| "    | "      | 4th Bn. Worcestershire Regiment arrived in Malta from Barbadoes in the "Zaria."                                     |
| "    | "      | 2nd Bn. Hampshire Regiment left Malta for Bermuda in the "Soudan."  |
| 4th  | (M.)   | H.M.S. "Leviathan" paid off at Chatham from Mediterranean.  |
| "    | "      | 7th Hussars arrived in England from South Africa in the "Dilwara."  |
| 5th  | (T.)   | H.M.S. "Leviathan" recommissioned at Chatham for Mediterranean.   |
| "    | "      | 1st Bn. West India Regiment left Jamaica for Sierra Leone in the "Muraji."  |
| 6th  | (W.)   | H.M.S. "Mildura" arrived at Plymouth from Australian Station.   |
| 8th  | (F.)   | H.M.S. "Leviathan" left Sheerness for Mediterranean.  |
| "    | "      | H.M.S. "Phoebe" arrived at Portsmouth from Australian Station.  |
| 9th  | (Sat.) | 2nd Bn. King's Own Scottish Borderers left India for Aden in the "Assaye."  |
| 10th | (S.)   | 67th Co. R. G. A. left St. Lucia for England in the "La Plata."   |
| 11th | (M.)   | H.M.S. "Iphigenia" arrived at Plymouth from China Port.   |
| 12th | (T.)   | Launch of 3rd Class Cruiser "Königsberg" from Imperial Dockyard, Kiel, for German Navy.                             |
| 15th | (F.)   | 2nd Bn. King's Own Scottish Borderers arrived in Aden from India in the "Assaye."                                   |
| "    | "      | 3rd Bn. Rifle Brigade left Aden for England in the "Assaye."  |
| 16th | (Sat.) | "V" & "W" Batts. R. H. A. } left England for South Africa<br>10th, 26th, & 92nd Batts. R. F. A. } in the "Dilwara." |
| "    | "      | 2nd Bn. Hampshire Regiment arrived in Bermuda from Malta in the "Soudan."   |
| 19th | (T.)   | 3rd Bn. Royal Fusiliers left Bermuda for South Africa in the "Soudan."  |
| "    | "      | 1st Bn. West India Regiment arrived in Sierra Leone from Jamaica in the "Muraji."                                   |
| 22nd | (F.)   | A Treaty was signed between Japan and China.  |
| "    | "      | 2nd Bn. West India Regiment left Sierra Leone for Jamaica in the "Muraji."  |

- 23rd (Sat.) 67th Co. R. G. A. arrived in England from St. Lucia in the "La Plata."  
 28th (Th.) 2nd Bn. East Yorkshire Regiment left England for India in the "Ionian."  
 30th (Sat.) H.M.S. "Mildura" paid off at Chatham.  
 " " H.R.H. The Prince of Wales presented new Colours to the 1st. Bn. King's Own (Royal Lancaster Regiment) at Calcutta.  
 31st (S.) 3rd Bn. Rifle Brigade arrived in England from Aden in the "Assaye."

## FOREIGN PERIODICALS.

### NAVAL.

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Motors." "The Claims of the Officers of the Fleet." "The Administrative Organisation of the Works Department." 25th December. — "Again the Naval Programme." "The Continuation of the Discussion on the new Mercantile Marine Act." "To the Committee of Ship-owners." "The great Constructing Houses of Automobile Motors." "The 8th International Automobile Exhibition." "On the Necessity for Creating a new Title of Honorary Rear-Admiral." "The True Objective of our Ships of War and the Defence of our Colonies." "The Administrative Organisation of our Works Department."

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*Le Yacht.* Paris: 2nd December, 1905.—"The Organisation of the Ships in the Reserve" (*concluded*). "Yachting Notes." "The German Turbine Cruiser 'Lubeck.'" "The Mercantile Marine Act." 9th December.—"The Report on the Naval Budget." "Yachting Notes." "The new U.S. Gun-boats 'Dubuque' and 'Paducah.'" 16th December.—"The Report on the Naval Budget" (*continued*). "Yachting Notes." "The New Cunarders." "A Sea-going or Coast-defence Fleet." 23rd December.—"The New German Naval Programme." "Yachting Notes." "The New Austro-Hungarian Armoured Cruiser 'St. Georg.'" 30th December.—"The Report on the Naval Budget" (*continued*). "Yachting Notes." "The New German Battle-ship 'Schwaben.'" "Battle-ships and Armoured Cruisers."

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ITALY. — *Rivista Marittima.* Rome: December, 1905. — "Military Operations and Naval Preponderance (Callwell)." "Mensing's Deep-Sea Gauge." "The 10th International Navigation Congress at Milan" (*concluded*). "The Anglo-Neapolitan Blockade of the Tuscan Sea: Nelson and the French Occupation of the Grand Duchy." "Foreign Naval Notes."



PORTUGAL.—*Revista Portuguesa, Colonial e Maritima*. Lisbon: November, 1905.—“On Compass Deflectors.” “Coffee from the Mhambane District.” “A Japanese Embassy to Europe in the 16th Century.” “Foreign Naval Notes.”

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SPAIN.—*Revista General de Marina*. Madrid: December, 1905.—“The ‘Cardinal Cisneros.’” “Charts.” “The Battle of Trafalgar” (*continued*). “The Sanitary Condition of the Fleet in 1904.” “International Convention at Brussels on Collisions and Salvaging.” “The Telekino.” “The Naval Lessons of the War.” “The Congress of Naval Architects in London, 19th-21st July, 1905.” “Four Years of Experience with Belleville Boilers.” “An Interview with Rodjestvensky.” “Mr. Robert Whitehead.” “The Kaiser’s Diagrams.” “Foreign Naval Notes.”

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### MILITARY.

ARGENTINE REPUBLIC.—*Revista del Boletín Militar del Ministerio de Guerra*. Buenos Aires: November, 1905.—Has not been received.

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AUSTRIA-HUNGARY.—*Danzer’s Armee-Zeitung*. Vienna: 7th December, 1905.—“Under the Curse of the Irredenta.” “Three Head-Quarters.” 14th December.—“Addenda to the 100th Anniversary of the Battle of Austerlitz.” “Training Schools for Non-commissioned Officers.” “Sobieski’s Share in the Battle raising the Siege of Vienna, 1683.” “On the Japanese System of Espionage.” 21st December.—“Addenda to the 100th Anniversary of the Battle of Austerlitz” (*continued*). “The Success and Limitations of Shrapnel.” “A Main Position or Defensive Lines?” “From the Italian Army.” “A few Facts about the Efficiency of the Cavalry in the Russo-Japanese War.”

*Mittheilungen über Gegenstände des Artillerie- und Genie-Wesens*. Vienna: December, 1905.—“Supplements to the Study of the Fighting round Port Arthur.” “Theoretical Review of Practice Shooting.” “New Phenomena in Steam Machines and Motor Construction.”

*Organ der Militär-wissenschaftlichen Vereine*. Vienna. Vol. LXXI. Part 4.—“On the Day of Mollwitz, 10th April, 1741.” “On the Conduct, Security, and Defence of Gun Ammunition, and Similar Wagon Transports.” “Cessation of Operations, 1877-78 and 1904-05.” “The Surgical Importance in War of Modern Fire-arms.”

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BELGIUM.—*Bulletin de la Presse et de la Bibliographie Militaires*. Brussels: 30th November, 1905.—“The German Imperial Manœuvres in 1904” (*concluded*). “The French War Budget for 1905.”

15th December, 1905.—“The French War Budget for 1905” (*concluded*). “The Efficiency of Modern Field Artillery Fire.” “The English Regulation on Combined Tactics.” 31st December.—Has not been received.

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FRANCE.—*Revue du Cercle Militaire*. Paris: 2nd December, 1905.—“A Page from the History of the Tonkin Expedition.” “The Swiss Grand Manœuvres in 1905” (*concluded*). 9th December.—“Small Units

in Action: Formerly and To-day." "The New German Infantry Musketry Regulation." "A Page from the History of the Tonkin Expedition" (*concluded*). 16th December.—"The Russian Effectives in the Far East and Trans-Siberia." "The One Year's Period of Service and the German Press." "Small Units in Action: Formerly and To-day" (*continued*). "The New German Infantry Musketry Regulations" (*continued*). 23rd December.—"The New German Infantry Musketry Regulations" (*continued*). "Small Units in Action: Formerly and To-day" (*continued*). "Medical School of Application for Colonial Troops." 30th December. — "General Saussier." "The New German Infantry Musketry Regulations" (*concluded*). "Small Units in Action: Formerly and To-day" (*continued*).

*Journal des Sciences Militaires.* Paris: November, 1905. — "The Rheinbaben Division on the 15th August, 1870." "Strategic Criticism of the Franco-German War" (*continued*). "Interior Economy." "Reflections on China: Her Spirit, her Army, her Future." "Q.F. Field Artillery" (*continued*). "What should be retained from the Russo-Japanese War" (*continued*). "Comparative Study of the French and German Field Service Regulations" (*continued*). "The Rôle and the Condition of the Non-commissioned Officer necessary for the Two Years' Period of Service."

December, 1905.—"Strategic Criticism of the Franco-German War" (*continued*). "Napoleon's Strategic Methods" (*concluded*). "Study of Infantry Regulations." "The Russian Cavalry during the Russo-Japanese War" (*concluded*). "Three Days' Operations carried out by an Infantry Division and a Cavalry Brigade covering the Siege of Belfort" (*concluded*). "Reflections on China" (*concluded*).

*Le Spectateur Militaire.* Paris: 1st December, 1905.—"The Russo-Japanese War" (*continued*). "The Conquest of Ménabé" (*continued*). "The Russo-Turkish Campaign of 1877-78" (*continued*). "The War in Morocco" (*continued*). 15th December.—"The Russo-Japanese War" (*continued*). "The Russo-Turkish Campaign of 1877-78" (*continued*). "The War in Morocco" (*concluded*). "The Conquest of Ménabé" (*continued*).

*Revue d'Artillerie.* Paris: October, 1905.—"Coast Telemetre with large Horizontal Base, invented by the Russian Colonel, de la Launitz." "Progress of Aerial Navigation."

November, 1905.—"Progress of Aerial Navigation" (*continued*). "On the Employment of the 75-mm. Gun in the Field." "Manufacture of Unsoldered Tubes by the 'Louvreil' Process."

December, 1905.—Has not been received.

*Revue de Cavalerie.* Paris: November, 1905.—"The Cavalry in the Grand Eastern Manœuvres in 1905." "Letters to Plok" (*continued*). "Military Equitation: Method of Instruction applicable to the Two Years' Period of Service." "Cavalry Service in the Field" (*concluded*). "Q.F. Horse Artillery."

December, 1905.—Has not been received.

*Revue Militaire des Armées Etrangères.* Paris: December, 1905.—"The Imperial Austro-Hungarian Manœuvres in Bohemia in 1905." "Sketch of the Portuguese Army in 1905."

*Revue d'Histoire.* Paris: December, 1905.—"The Campaign in 1794 with the Army of the North" (*continued*). "The Race for Bena-vente." "The War of 1870-71" (*continued*).

GERMANY.—*Militär-Wochenblatt*. Berlin : 2nd December, 1905. — "A Hundred Years Ago : Austerlitz." "The Grand Manœuvres of the French Army in 1905." "Two Edicts of the Russian Minister of Marine." 5th December.—"The Grand Manœuvres of the French Army in 1905" (*continued*). "Curb-Bits." 7th December.—"The Dessau Muster Roll of 1729." "The Bredow Army Lists and Muster Rolls." "The Grand Manœuvres of the French Army in 1905" (*concluded*). 9th December.—"Jubilee of the 2nd Hannoverian Uhlan Regiment, No. 14." "On the Question of Rapidity of Infantry Fire." "A few Details regarding the Japanese Horse." 12th December.—"The Fight against Shield-protected Batteries." "A Great General Staff for the English Army." "Intelligence of the Austro-Hungarian Forces." 14th December.—"Retreat of the Archduke Ferdinand from Ulm to Bohemia, October, 1805." "The Latest Efforts for Protection of Field Artillery." 16th December. — "Considerations on the Battle of Mukden." "Retreat of the Archduke Ferdinand from Ulm to Bohemia" (*concluded*). "Infantry Fire Tactics." "Intelligence from the Belgian Army." 19th December.—"Jubilee of the Crown Prince Guards Regiment." "The end of the Autumn Campaign of 1813." 21st December.—"Two Observations on Moltke's Strategy in 1866." "The Great Elector." 23rd December.—"Foreign Infantry Musketry Experiments." "The American Soldier in the Philippines." "An Italian Attack on Italian Field Artillery *Matériel*." 28th December.—"The Battle at Beaune-la-Rolande." "The Infantry Attack." "Foreign Infantry Musketry Experiments" (*concluded*). 30th December.—"On the End of the Year." "The Battle of Beaune-la-Rolande" (*concluded*). "The English Field Artillery Regulations."

*Internationale Revue über die gesamten Armeen und Flotten*. Dresden : December, 1905.—"Military and Naval Intelligence from Abyssinia, Austria-Hungary, Belgium, Bulgaria, France, Germany, Great Britain, Italy, Japan, Montenegro, Norway, Portugal, Roumania, Russia, Spain, Switzerland, Turkey, and the United States." *Supplement 68*.—"The Bulgarian Armed Forces." *French Supplement 81*.—"Moltke." "Artillery and the Liège Exhibition in 1905." "Annual of Germany's Maritime Interests for 1905." "Power of Personality in War."

*Jahrbücher für die Deutsche Armee und Marine*. Berlin : December, 1905.—"The German Passage of the Moselle in 1870, according to French Accounts" (*concluded*). "The French Infantry Musketry Regulations of the 31st August, 1905." "On the History of the Russo-Japanese War." "German and French Barrel-recoiling Field Guns." "Service Horses with the Dismounted Branches of the Service." "The Ballistic Curve."

*Neue Militärische Blätter*. Berlin : October, 1905. No. 17.—"Germany as a Sea Power." "Field Howitzers in Action and in Fortresses." "The Caucasus as a Base of Operations, especially against India." "Fulcrum of the British World-Power."

November, 1905. No. 18. — "The War of 1805 in Germany." "Austro-Hungarian Mountain Artillery." "The Caucasus as a Base of Operations, especially against India" (*continued*). "A Prussian Opinion on Russian Military Administration during the late War." No. 19.—"The War of 1805 in Germany" (*continued*). "The English Autumn Manœuvres." "The Caucasus as a Base of Operations, especially against India." "The Moltke Memorial in Berlin." "Socialistic Movement against the Army in Italy, Switzer-



land, and Germany." "A French Opinion on the German Imperial Manœuvres." No. 20.—"Modern Writings on Naval Warfare." "The War of 1805 in Germany" (*continued*). "Improvement of the Austrian Landwehr." No. 21-22. — "The Battle of Leuthen." "Submarines in Germany and France." "The War of 1805 in Germany" (*continued*). "Modern Writings on Naval Warfare" (*concluded*). "Artillery Matériel at the Lüttich International Exhibition."

ITALY.—*Rivista di Artiglieria e Genio*. Rome: October, 1905. — "General Garneri." "The Attack and Defence of Strong Naval Ports." "Some Data in regard to the Wall constructed in the Castle of San Angelo of Armoured Cement." "Observation Stations for Artillery Firing." "Importance of Verona in the History of Fortification." "A Small Instrument for Registering the Effect of Firing from Coast Batteries." "Foreign Military Notes."

*Rivista Militare Italiana*. Rome: December, 1905.—"The Military Levy from the Moral Point of View." "Some Suggestions on the Moral Instruction of a Company by its Captain" (*concluded*). "On the Use of Field Fortifications with Modern Fire-arms." "On the Matériel of Field Artillery." "The Moral Factor of the Japanese Army in the Russo-Japanese War." "Do his Compatriots born in 1885 know anything of Virgil." "Foreign Military Notes."

PORTUGAL.—*Revista de Engenharia Militar*. Lisbon: October, 1905.—"General Report on the Works carried out in 1904-05." "Military Recognition of the Portuguese Frontier between the Districts of Lourenço Marquez, Gaza, Transvaal, and Swaziland, and the Establishment and Provision of Police Posts during the Anglo-Boer War" (*continued*).

*Revista de Infanteria*. Lisbon: December, 1905.—"Infantry Cadres." "Military Administration." "Sergeants." "The Pay of Officers in the Colonies." "Two Opposite Schools." "The Entry of Recruits." "Foreign Military Notes."

RUSSIA.—*Voiénnyĭ Sbórník*. St. Petersburg: December, 1905.—Has not been received.

SPAIN.—*Memorial de Ingenieros del Ejército*. Madrid: November, 1905.—"Studies in Fortification: The Moat" (*concluded*). "Study for a Bridge of Armoured Cement" (*concluded*). "The Eclipse of the Sun, 30th August, 1905: The Observations made at Sigüenza by the Military Engineers."

*Revista Técnica de Infantería y Caballería*. Madrid: 1st December, 1905. — "Campaign of the Higuera." "The Military Loan Office." "Cavalry and Musketry Instruction." "Colonel Christóbal de Mondragón" (*continued*). 15th December, 1905.—"Politics and the Army." "Moral Influence of Legislation on Retired Officers." "Colonel Christóbal de Mondragón" (*continued*). "Cavalry and Musketry Instruction" (*continued*). "Military Review of the Year."

*Revista Científico-Militar y Biblioteca Militar*. Barcelona: December, 1905.—"A Point of Organisation." "Some Lessons from the Late War." "Lamentations, III." "A Letter of Dragomiroff." "Japanese Soldier's Pocket-book."

SWITZERLAND.—*Revue Militaire Suisse*. Lausanne : December, 1905.—“At the Grand Army Manœuvres at Champagne” (*concluded*). “The Russo-Japanese War.” “The Problem of Sedan” (*concluded*). “Revision of the Swiss Infantry Drill Regulations.”

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UNITED STATES.—*The United Service*. New York : December, 1905.—“The Strategy and Tactics of the Russo-Japanese War.” “Pekin, August, 1900.” “Official and Social Military Etiquette.” “European Theory baffled in the Russo-Japanese War.” “Our Contemporaries.” “Service Salad.” “George Peck, Medical Director, U.S.A.”

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## NOTICES OF BOOKS.

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*The Development of the European Nations, 1870-1900.* By J. HOLLAND ROSE. London : Archibald Constable & Co., Ltd.

This is not only a very interesting, but in many respects a very valuable book. There are few studies more absorbing than that of contemporary history; than that of learning something of the methods—often ignoble, occasionally grandiose, but generally instinct with patriotism—whereby the younger Nations have elbowed their way to the front while their elders have struggled to preserve their pride of place. We live in an age when nothing remains for long hidden, when sooner or later the secrets of all hearts—and even of many Cabinets—are revealed, when diplomats publish prematurely their reminiscences and the political lives of great Ministers are set out in the fullest detail. In the preparation of a book descriptive of the development of the European Nations, Mr. Holland Rose has had no lack of material; one might almost say that he has ransacked all the chancelleries of Europe to give his readers the history of the last thirty years of the 19th Century—of the rise of Germany, the founding of the French Republic, the making of Bulgaria, and of the methods of statecraft which the European nations have employed in the attempt to solve or to silence the two great questions, which, like the poor, are always with us: the Eastern and the Central Asian questions. Mr. Holland Rose has no very high opinion of political morality; but there is, unfortunately, much justice in the following remarks at the close of the chapter on “The Balkan Settlement”:—“It would be premature to inquire which of the European Powers must be held chiefly responsible for the toleration of the hideous massacres of the Armenians in 1896-97. and the atrocious misgovernment of Macedonia, by the Turks. All the great Powers who signed the Berlin Treaty are guilty; and the State which framed the Cyprus Convention is doubly guilty, so far as concerns the events in Armenia. . . . The Treaty of Berlin, which might have inaugurated an era of good government throughout the whole of Turkey if the Powers had been true to their trust, will be cited as damning evidence in the account of the greatest betrayal of a trust which modern history records.”

Mr. Holland Rose has evidently taken immense pains with his descriptions of the chief events of the numerous campaigns with which the pages of the history of contemporary Europe are so plentifully strewn, and he has succeeded in gathering his facts from a rich abundance of sources and in presenting them in a narrative which is admirably epitomised.

Future historians will perhaps agree with the writer of this book that on many notable occasions during the last quarter of the 19th century, "British policy was provokingly undecided and timidly passive," while the following remarks are worth quoting in this connection: "It is the most elementary of blunders to suppose that the cause of peace is furthered by a timid policy. . . . Peace is best assured by the steady maintenance of a course of conduct which, springing from a due sense of self-respect, inspires respect in others. If Aristotle in his survey of the virtues had included love of peace, we venture to think that he would have placed it as a mean between two extremes—an overbearing disregard of the claims of others, and a proneness to make graceful concessions. Using the slang of to-day, he might have assigned it a middle place between "Jingoism" and "peace at any price."

It is to be hoped that this book may be widely read by all classes of the people; it is more than an interesting history of a period full of incident, it is a story of the political problems which men have tried to solve while some of the solutions have only proved to the detriment of mankind. It is the general public who should know these things if, as the author says, "the responsibility for the public weal rests more with the masses of the people than with its officials."

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PRINCIPAL ADDITIONS TO LIBRARY, DECEMBER, 1905.

*Memoir of Sir Henry Keppel, G.C.B., Admiral of the Fleet.* By Sir ALGERNON WEST. 8vo. 7s. 6d. (Smith, Elder & Co.) London, 1905

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*La Lutte pour l'Empire de la Mer.* By RENE DAVELUY. 8vo. (Presented.) (Augustin Challamel.) Paris, 1906.

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*La Flotte Nécessaire.* By Le Contre-Amiral F. E. FOURNIER. 8vo. 2s. 6d. (Berger-Levrault et Cie.) Paris, 1896.

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*The Russo-Turkish War, 1877.* By Major F. MAURICE. 8vo. 5s. (Presented.) (Swan Sonnenschein & Co., Ltd.) London, 1905.

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*Regimental Standing Orders for the Guidance of the Royal Newfoundland Companies.* By Lieut.-Colonel ROBERT LAW, K.H., Commanding. 8vo. (Presented.) St. John's, Newfoundland, 1850.

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*Regulations for the Equipment of the Army (Auxiliary Forces). Part 2. Section XVIII. Volunteers.* Official. 8vo. (Presented.) (Harrison & Sons.) London, 1905.

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*Military Hygiene.* By Lieut.-Colonel R. CALDWELL, R.A.M.S. 8vo. (Presented.) (Baillière, Tindall & Cox.) London, 1905.



*Description in German of the Lipari and Ionian Islands, with Bougie and some of the other North African Ports.* By H.I.M. ARCHDUKE LUDWIG SALVATOR OF AUSTRIA. 16 vols. F<sup>o</sup>cap fol. (Presented.) (H. Mercy.) Prague, 1895.

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*Handbook for the 5-inch B.L. Howitzer.* Official. 8vo. 1s. (Presented.) London, 1905.

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*Infanterie-Telegraphenpatrouillen.* By Colonel L. SCHLEYER. 8vo. 1s. 9d. (W. L. Seidel & Sohn.) Vienna, 1905.

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*A History of the Hyderabad Contingent.* By Major R. G. BARTON. 8vo. 4s. 6d. Calcutta, 1905.

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*With the Abyssinians in Somaliland.* By Major J. W. JENNINGS and C. ADDISON. 8vo. 10s. 6d. (Presented.) (Hodder & Staughton.) London, 1905.

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*A Week after Ilex from Gib.* By Major G. F. T. LEATHER. Crown 8vo. (Presented.) (St. George's Press.) Dover, 1905.

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*Aperçu de Tactique Navale.* By Le Commandant H. VIGNOT. 8vo. 1s. 8d. (Presented.) Paris, 1905.

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*Standing Orders of the 5th (Royal Irish) Lancers.* 8vo. (Presented.) (Gale & Polden.) Aldershot, 1904.

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*The First Romanovs.* By R. NISBET BAIN. 8vo. 12s. 6d. (Archibald Constable & Co.) London, 1905.

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*The Russian Court in the Eighteenth Century.* By FITZGERALD MOLLOY. 2 vols. 8vo. 24s. (Hutchinson & Co.) London, 1905.

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*In the Uttermost East.* By C. H. HAWES. 8vo. 16s. (Harper Bros.) London, 1903.





**THE BARR AND STROUD RANGEFINDER, F.Q. TYPE; 9 FT (2.74 METRE) BASE.**

**ON MOUNTING NM TYPE.**

**FOR USE ON BOARD BATTLE-SHIPS AND CRUISERS.**

The Rangefinder is mounted on roller bearings, and controlled in altitude by the observer's left hand. It is controlled in azimuth by the breast piece, which is mounted on a bracket. The bracket runs on ball-bearings.

The mounting can be raised or lowered to suit the height of the observer, and is constructed entirely of gun-metal.

This Rangefinder is also supplied on a mounting suitable for use in fortresses.

Approximate uncertainty of observation :—

3 yards at		2,000 yards.
20	„	5,000 „
85	„	10,000 „





THE GERMAN FIRST-CLASS BATTLE-SHIP "MECKLENBURG," 11,900 Tons; 15,000-I.H.P.; Speed, 18 Knots.

ARMOUR PROTECTION.—Complete 9-inch belt of Krupp steel, tapering to 4 inches at extremities. Main barbettes, hoods and hoists, 10 inches; Re-loubt and central battery, 5.5-inch; casemates and secondary turrets, 6-inch; hoists for 5.9-inch Q.F. guns, 3-inch; conning tower, 10-inch; signal tower (aft) 4-inch; protective deck, 3-inch on slopes, 1.5-inch on flat.

ARMAMENT.—Four 9.4-inch 40-calibre guns in pairs in barbettes; eighteen 40-calibre Q.F. 5.9-inch guns, eight in battery, two in casemates on main deck, four in casemates and four in turrets on upper deck; twelve 3.4-inch Q.F. guns and 12 small machine guns, with 6 torpedo-tubes, one submerged in stern, four submerged on broad-side and one above water astern.

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# THE JOURNAL

OF THE

## ROYAL UNITED SERVICE INSTITUTION.

VOL. L.

FEBRUARY, 1906.

No. 336.

*[Authors alone are responsible for the contents of their respective Papers.]*

### SECRETARY'S NOTES.

1. The following officers became members of the Institution during the month of January :—

Captain G. C. Buxton, Norfolk Imperial Yeomanry.  
Captain C. M. Nuttall, R.G.A.  
Major G. E. Tuson, D.S.O., 16th Lancers.  
Lieutenant L. W. Lucas, East Kent Regiment.  
Lieutenant D. V. M. Balders, Suffolk Regiment.  
Captain Lord A. E. Browne, R.F.A.  
Captain F. W. A. Anderson, Manchester Regiment.  
Captain R. J. Slaughter, A.S.C.  
Captain A. S. Cotton, R.H.A.  
Lieutenant A. W. Brown, 1st V.B. Northamptonshire Regiment.  
Captain R. Barclay, Sussex R.G.A. (M.)  
Lieutenant C. B. B. White, Royal Australian Artillery.  
Captain R. G. B. Armstrong, R.M.L.I.  
Captain M. Moore, A.S.C.  
Lieutenant H. Weisberg, City of London Imperial Yeomanry.  
Midshipman E. W. M. King, R.N.  
Major C. D. Vaughan, D.S.O., Border Regiment.  
Colonel A. J. Godley, Irish Guards.  
Captain G. C. Grazebrook, Royal Inniskilling Fusiliers.  
Lieutenant G. H. Loder, Scots Guards.  
Major J. Hay, R.F.A.  
Second Lieutenant H. H. Baxter, R.F.A.  
Assistant-Paymaster J. E. Sorrell, R.N.R.  
Lieut.-Colonel the Earl of Romney, late 4th Battalion Bedfordshire Regiment.  
Captain H. N. Couchman, Middlesex Regiment.  
Lieutenant A. F. P. Wehner, R.G.A.  
Major F. W. Moffitt, Essex Regiment.  
Lieutenant J. A. Muirhead, Indian Army.  
Chief-Paymaster G. B. Townesend, R.N.  
Lieutenant L. T. Jones, R.N.  
Major R. S. May, Royal Fusiliers.  
Major C. K. Burnett, 18th Hussars.  
Captain W. M. C. Crowe, Royal Warwickshire Regiment.  
Lieutenant J. G. Browne, 14th Hussars.  
Lieutenant L. B. Clöete, Indian Army.  
Major H. W. Hodgson, 15th Hussars.  
Captain E. de A. Le Mottée, D.S.O., Gloucestershire Regiment.  
Second Lieutenant A. A. C. P. S. Perceval, Irish Guards.

(Two other officers joined the Institution whose names are not included in this list.)



(The above list includes the names of officers of every branch of the Services, which is satisfactory.)

2. On the occasion of the Opening of Parliament by His Majesty the King in State, on 19th February, there will be limited accommodation at the windows of the buildings for members and their friends to witness the Royal Procession. The charge for each ticket will be 7s. 6d., to include light refreshments. Only those in possession of tickets will be admitted to the buildings.

3. The Anniversary Meeting will be held in the Theatre of the Institution at 4 p.m. on Tuesday, 6th March; Field-Marshal Earl Roberts, Chairman of the Council, will preside.

4. The following are the names of the candidates nominated to fill the several vacancies occurring on the Council. A ballot, where necessary, will be taken at the Anniversary Meeting :—

*Naval (1 Vacancy).*

Captain Honble. A. E. Bethell, C.M.G., R.N. (Assistant Director of Naval Ordnance).

Vice-Admiral Sir R. N. Custance, K.C.M.G., C.V.O.

*Royal Naval Reserve (1 Vacancy).*

Commander W. F. Caborne, C.B., R.N.R. (for re-election).

*Regular Army (3 Vacancies).*

Colonel Honble. J. T. St. Aubyn, C.V.O., Commanding Grenadier Guards.

Brigadier-General C. G. Donald, C.B. (for re-election).

Colonel L. A. Hale (for re-election).

Colonel Honble. O. V. G. A. Lumley, late Commanding 11th Hussars, h.p.

Major-General G. U. Prior, p.s.c. (for re-election).

Colonel F. W. Romilly, C.B., D.S.O., p.s.c., Commanding Scots Guards.

*Militia (1 Vacancy).*

Colonel the Viscount Hardinge, Commanding 7th Battalion The Rifle Brigade.

Colonel W. A. Hill, C.B. (for re-election).

*Yeomanry (1 Vacancy).*

Colonel R. B. Colvin, C.B., Commanding Essex Imperial Yeomanry.

Major W. B. Stewart, Lothians and Berwickshire Imperial Yeomanry.

*Volunteers (2 Vacancies).*

Colonel E. H. Bailey, V.D., Commanding 1st V.B. East Surrey Regiment.

Colonel T. S. Cave, V.D., Commanding 1st V.B. The Hampshire Regiment (for re-election).

Sir G. H. Chubb, Bart., late Captain, 4th V.B. East Surrey Regiment (for re-election).

Colonel W. C. Horsley, V.D., Commanding 20th Middlesex V.R.C. (Artists).

Colonel Sir H. Roberts, Bart, V.D., Commanding 16th Middlesex V.R.C. (London Irish).

Colonel G. Rumsey, Commanding 4th V.B. The Queen's Royal West Surrey Regiment.

5. A further course of Military History Lectures, commencing the last week in March, and dealing with the subjects set for the May promotion examinations, will be held in the Theatre of the Institution. The course will comprise ten lectures. The fee to attend the course will be half-a-guinea for members of the Institution, and a guinea for non-members. The lecturer will be Doctor T. M. Maguire, and due notice of the dates of the lectures will be given in the Service papers and in these Notes in the March number.

# MILITARY CYCLING AND THE HOME ARMY.

*By Major R. A. JOHNSON, 1st V.B. Hampshire Regiment.*

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Thursday, 26th October, 1905.

Major-General Sir J. F. MAURICE, K.C.B., in the Chair.

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IN expressing to you my high sense of the great honour that I feel it, to be allowed to address you this afternoon, I must confess that I have accepted the invitation of the Council to do so with some little hesitation. It has become more and more evident to me that I can claim no expert knowledge whatever on the subject of military cycling, and there are many officers—some of whom I am glad to see present in this hall—who are much better qualified to express opinions on this subject than I am.

In asking you, therefore, to follow my very elementary summary of the place which military cycling holds, or might hold, in the strategy and tactics of modern warfare, I beg that you will regard my remarks as made rather with the object of provoking thought and stimulating discussion upon the tactical uses of an arm which has certainly not yet reached its limits of possible development, than as presuming towards anything like an authoritative expression of opinion.

The last lecture that was delivered in this room on the subject of military cycling was from the mouth of no less a person than the distinguished General who has kindly consented to occupy the Chair this afternoon, and I can scarcely hope to add anything of moment to his exhaustive treatment of the subject in 1901. The fact remains, however, that but little real progress has been made in the tactical uses of this arm since the interesting manœuvres conducted by Sir Frederick Maurice in Sussex, in 1901, and that it is only by repeated hammering at the extreme conservatism with which we in England receive anything that has the least pretensions to be new, that we can attain any progress at all. That is why I make bold to suggest to you this afternoon that the use of the cycle in warfare has not yet received from many of our leading tacticians that attention which I know Sir Frederick Maurice is convinced that it should.

The military cyclist first entered the British Army through a back door; that back door was the Volunteer Force. In the Volunteers, too, cycling has attained to a far higher development than it has yet reached in any other branch of the Service. I think it was in 1888 that Volunteer battalions first began to raise cyclist sections, though there were pioneers before those days.

Among these may be mentioned General Sprot, who, in a letter to the *Cyclist*, suggested that men mounted upon bicycles might with advantage be employed as orderlies, and that tricyclists could

efficiently perform the duties of mounted infantry. Next, Major Molyneux, in a letter to the *Volunteer Service Gazette*, in 1882, was much struck with the assembly at the Hampton Court meet of 2,000 members of Cyclist Clubs from all parts of England. In his letter he argued that a cyclist could go double the distance in one day that a horseman could accomplish, that he travels faster and noiselessly, and that his mount does not eat; and he came to the conclusion that valuable military material was latent in these civilian clubs.

But nothing very definite was done until 1887, when General Stracey and Colonel Savile conceived the bold idea of using cyclist scouts in connection with the Dover marching column, and the success of the manœuvres that then took place led quickly to the formation by authority of several bodies of military cyclists in the Volunteer Force.

The 26th Middlesex—which is well known to you to-day as the only battalion of Volunteer cyclists in the Service—was formed in 1887, under the command of Major Percy Hewitt, late Carabiniers, and in the following year Volunteer battalions began to raise cyclist sections within their establishments, though the strength was limited to 1 officer, 2 non-commissioned officers, 12 to 20 privates, and 1 bugler. At Easter, 1888, some very extensive manœuvres were undertaken under Colonel Savile's command in the country between Winchester and Salisbury, and from that day forward cyclist manœuvres have been a feature of every year of training. In dealing with the pioneers of military cycling, I cannot omit the name of Colonel Eustace Balfour, whose practical experience of military cycling extends over 17 years, and has followed him into his retirement from the active list. It is unnecessary for me to expatiate in London on the debt that military cycling owes to Colonel Balfour.

Particular mention should also be made of the Professor of Moral Philosophy at Oxford, who raised the first cyclist section in the University Corps, and compiled what I believe I am right in saying was the first cyclist Drill Book. We may smile at the elaborate evolutions laid down in Captain Cook-Wilson's drill book for forming square to receive cavalry, an essential feature of which were the revolving wheels of the up-turned machine, which were to frighten the horses of the enemy; but the little book had many outstanding merits, and was, to a wonderful degree, in advance of the times. In its pages, for instance, we find two principles enunciated, which are even yet not as fully realised by cyclist officers as I think they should be.

In the first place, Captain Cook-Wilson insists upon the vital importance to cyclists of smart drill, and in order to attain this he goes even so far as to advocate close-order drill mounted in a grass field. I need not, perhaps, enlarge upon the importance of smart drill for cyclists. We all know what march discipline means, and what is the difference between the strategical and tactical value of a regiment of infantry that has it, and one that has it not. It will be obvious that in dealing with cyclists—who must necessarily tail out over undulating country, and occupy an immense length of road—the effectiveness of any considerable body must entirely depend upon their march discipline. Smartness in dismounting and deploying for action, or in doubling back to their machines and speedily



reforming column of route, whether for pursuit or retreat, will often make all the difference when it comes to the point.

Next, Captain Cook-Wilson was one of the first to realise the great value which his mobility lends to the cyclist, not merely as a dispatch rider, but as employed in large numbers as a tactical unit upon the battle-field. He showed how, if properly handled, cyclists could envelop and harass advancing infantry, and he was bold enough to assert—what is scarcely recognised even to-day—that in many cases they may prove altogether a match for cavalry.

These were early days, and I well remember how the first Volunteer cyclists were regarded, half as a joke, half as a nuisance, by commanding officers, who made them the victims of a good deal of abuse at the battalion drill, followed by a march past, which formed so large a part of the Volunteer trainings of the time. These were the days, of course, when the frontal attack in stereotyped formation was held to be of far more importance than operations against a flank, or against lines of communication. These were the days when scouting and reconnaissances were rarely practised in the Auxiliary Forces, and the soldier was so shocked at the straggling and untidy appearance which cyclists on the road will often present, that he missed altogether the significance of the enhanced mobility conferred upon them, even by the machine of that epoch. In the ordinary Volunteer sham-fight the opposing forces rarely occupied more than one mile square of ground from start to finish, so that the speed of the cyclist was a negligible quantity in the battle. In these small engagements he was generally confined to one road, though he might occasionally be asked—half in jest—to advance over a ploughed field. His drill was inchoate, and his machine heavy and of varying pattern. I have seen field days indeed, where some of the men were mounted on tricycles, or even on the old high bicycle of the “ordinary” type. It was always considered to be quite a serious criticism to remind the cyclist that he could not “charge,” and when the pneumatic tyre came in it was supposed to be funny to remind him that he might be punctured. Old prejudices die hard, and there are many cavalry men to-day who simply will not discuss the cyclist as worthy of their steel. Sir Frederick Maurice has shown that it is possible for a body of cyclists to ride from Coventry to Hendon, a distance of 100 miles, on a Saturday; on the Sunday, from Hendon to Cuckfield, 75 miles, in pouring rain, and to do excellent work on the Monday. In his official report of the work of this particular body of cyclists, he writes that “the men did not appear to be fatigued.” I am afraid it will hardly do to ask our friends of the cavalry where they and their horses would be at the end of such marchings; it would not be a question as to whether they merely “appeared” to be fatigued or no. Nevertheless, four years ago a very distinguished general reported the bicycle to be “a most cumbrous form of transport,” and it is only quite recently that the War Office has allowed each Volunteer battalion to maintain more than a section of cyclists. It is fair to the War Office to say that their conversion quite recently has been very rapid, and that they now desire to convert the whole of the Volunteer artillery into cyclist infantry! It is, perhaps, difficult to understand how even the cyclist can wholly take the place of the gunner, but I suppose he should at least be grateful for so flattering a recognition of his worth.

I have said that the development of military cycling and the extension of the sphere of usefulness of the cyclist is due to the inspiration, partly of soldiers and partly of civilians, but the details have been worked out in almost every case by the Volunteers. When we come to look into it, it is quite natural that the Volunteer Force should have been the first foster parents of the military cyclist. In the first place, we Volunteers are admittedly a collection of cranks of all descriptions, or we should hardly be Volunteers in these trying times, and the original cyclists were regarded as the veriest cranks. Next, the Volunteer cyclist contributed his own machine, whereas in the Regular Army it is difficult to find money for mounting the men. Moreover, it soon came to be found that, in recruiting for the cyclist section, Volunteer officers tapped a new class, or, at any rate, a class which, since the days of the early Volunteer movement, had been all too scantily represented in the ranks. A flourishing cyclist section consequently meant so many excellent recruits a year to the good. The rise of a rejuvenated Yeomanry, together with the return of an excessive economy, which has cut down the special grant for wear and tear of machines from £2 to £1, has greatly militated against the popularity of the cyclist during the past year, and I am told that recruiting in some corps is at a standstill. But meantime, the cyclist has been finding his military worth acknowledged, and I have sufficient confidence in my fellow countrymen to believe that when once they are persuaded of the value of his services, there will be no serious difficulty in getting a good proportion of them to come forward, no matter what the expense or inconvenience to themselves may be.

There is a fourth, and even more potent, reason for the popularity of the cyclist with a Volunteer commanding officer, though it does not altogether make for the efficiency of the cyclists themselves. In face of the seeming inability of the authorities to organise the Volunteers into brigades or divisions of all arms, the majority of Volunteer corps go out for their annual training without a gun or sabre to make that training of any real instructional value. Now this is where the cyclist comes in. He takes the place of mounted infantry or cavalry, whether in operations of brigade *versus* brigade, or, more often and with less benefit to himself, in making a skeleton enemy for his battalion. A strong contingent of cyclists is, therefore, invaluable to a Volunteer commanding officer or brigadier, as preventing a manœuvre training from becoming a farce; and this attraction quite counteracts the old and very reasonable prejudice of commanding officers against extras which diminish the fighting strength of the battalion.

As I have said, I am far from applauding this system. I have seen training after training all over England, where the whole time of the cyclists has been wasted in employing them for purposes which are totally alien to their proper rôle. At the same time, under the circumstances, it is difficult to see what commanding officers and brigadiers are to do, or to blame them for looking to the interests of the infantry, who form the larger proportion of their commands. At any rate, it makes for the encouragement and increase of the number of cyclists in the Volunteer Force, which is, admittedly, a thing very much to be desired. The tactical absurdity of the uses to which cyclists are often put is only one of a whole host of absurdities



produced by the presence of 350,000 men in the Auxiliary Forces, who have never yet been mobilised or trained as an Army.

In the Regular Army military cycling has also made rapid progress of recent years, and I am told that this is more particularly so with some of our cavalry regiments, but even so in the Regular Army the cyclist is rarely regarded as more than a very valuable person for scouting and dispatch riding; and there has been no attempt to organise him or employ him in formed bodies as a separate arm, as there has been with that other form of mobile infantryman—the infantryman who is mounted on a horse.

Now, what I wish to discuss with you this afternoon, if you will allow me, is the strength and weakness of the cyclist as a separate arm. As a dispatch rider, and even as a scout, he has come to stay in most Armies of the world, but, strangely enough, his position in the line of battle is not recognised as, I think, it should be. The British Army has made its infantry mobile by mounting them upon horses, upon waggons, upon camels, or even upon elephants, but it seems to stop short at the bicycle. In Continental Armies the large masses of cavalry which are available have already made the mounted infantryman unnecessary, and there would be less wonder, therefore, if they did not trouble themselves about cyclists.

Nevertheless, military cyclists have long been assigned a definite rôle in Continental Armies, as scouts and dispatch riders. Not only so, but in the late German Manœuvres a company of cyclists formed part of the Blue cavalry division, and did excellent work on the flanks of that division on its march from Nassau to Ruppertshofen. In the French Manœuvres in Champagne, I am told that a complete battalion of cyclists appeared for the first time, and although this battalion is an experiment at present, and an experiment which is not favoured by one section of the French Army, there is a considerable party among the younger men who believe that military cycling has a great tactical future before it. The battalion to which I refer marched on the great Routes Nationales in the nearest approach possible to column of fours, headed by a band also mounted on cycles, to the strains of which the pedalling kept time. I am further informed by an eye-witness that on one occasion this battalion was used with great effect against a cavalry charge. The battalion cycled up a road to the flank of the charging cavalry, where they were able to pour a rapid flank fire into the charging squadrons to such good purpose that the cavalry were put out of action.

In discussing the strong and weak points of the cyclist as a tactical unit, I will make concession to his critics by taking his weak points first. In enunciating them I am merely announcing platitudes, but perhaps it is not sufficiently recognised how these platitudes work themselves out in detail.

My first platitude is that *cyclists are confined to the roads*. They are, therefore, always moving through a defile. I am aware that many ingenious officers have attempted to get round this very obvious difficulty, and Colonel Savile—I think it was—believed that no country was really impassable to a cyclist. Still, the fact remains that if we are to make any use of the great speed, which is the essential virtue of the cyclist, we must confine him pretty strictly to the roads. Cyclists, therefore, are not the best of all possible advanced guards. If they have flankers out, their speed is little greater than that of infantry; if, on the other hand, they have not flankers out,



they are liable to a "Sanna's Post" at every turn in the road. Next, because they are confined to the roads they make but poor flank guards to an advancing column. It is sometimes considered that if you place a company of cyclists on roads parallel to that upon which the main column is advancing, and take adequate care that touch shall be maintained at every cross road or lane, the column is sufficiently secure against surprise from any flank. I think that if I give you an illustration of what happened on a certain occasion when this was done, I shall show the dangers of such a course. The practical illustrations which I am about to give of various points as they arise, are unfortunately drawn from my own experiences at peace manœuvres. I must ask my audience to forgive me for trying to point the moral in a discussion on one aspect of war by a relation of only bloodless encounters, though it may lend a tinge of reality when I tell you that these encounters were not always quite so bloodless as they sound.

The battalion to which I belong was on the march from Winchester to Petersfield; the right flank was the flank in danger, and consequently, a company of cyclists was placed upon the road which leads parallel to the Winchester-Petersfield road, and roughly, half a mile to the north of it. Our enemy were the Hampshire Yeomanry; they descended upon the front and rear of the cyclist company, and though they could make no headway against the fire that these were able to develop upon them, they succeeded in delaying the flank guard, and not only so, but in riding round it and blocking the lateral roads which lay between it and the column. The consequence was, that the flank guard became isolated, and a part of the Yeomanry were thus free to operate against the column itself.

An infantry flank guard had accordingly to be detailed, and the very fact which led to the isolation of the cyclists, viz., the enclosed and wooded nature of the country through which we were passing, made the advance of these flankers so slow that operations had to be altogether suspended in order to allow the column to reach its scheduled destination that day.

There are, of course, partial remedies for these glaring defects. In a country that is well supplied with roads, an advance composed solely of cyclists should not be confined to a single road. It would naturally occupy a broad front and move in parallel columns upon three or four parallel or converging roads. Such roads are not, however, always to be found within two to three miles of each other even in a country which is so well supplied with roads as our own. If they were so to be found, it would be probable that an enemy that attempted to resist the advance guard upon one of these roads would not maintain himself for long unless he were in very considerable strength, in terror that he might be outflanked and cut off by the other columns of the cyclist advance guard on the roads to the left and right of the point of resistance. In cases where parallel roads do not exist, it is, of course, quite possible for cyclists to do careful and thorough advance guard work, but the more thoroughly they search all points to right and left of the road, the more do they sacrifice their mobility; and though by the exercise of great judgment, I believe that a cyclist advance guard might perform its work on active service rather more quickly than an infantry advance guard, the advantages of employing the more mobile arm for this work would be, in a large measure, discounted. In manœuvres, it is true that cyclists can often perform advance guard work satisfactorily, but they

would always be jeopardising their advance scouts in a fashion which, I take it, could hardly be expected in war. For instance, if the two men who formed the extreme point of the advance guard are instructed to ride with a blank round in the chamber, and if captured by an ambush to press the trigger as they dismount, due warning will be given to the vanguard in their rear, but when we remember what would be the consequences of such action on their part in anything but a sham-fight, I think we shall agree that there are not heroes enough, even in the Volunteer Force, who would be willing to take risks of this kind for the benefit of their comrades behind them.

I have said that a flank guard—as we generally interpret the term—cannot usefully be furnished by cyclists, but if one is careful to confine them to the roads they can at least block all the lateral roads which lead into the main road of advance. Their great speed and the very small space that a section of cyclists riding in single file will occupy upon the main road, enables them to ride forward and occupy a good tactical position in advance upon any lateral road that leads down to that upon which the column is advancing. They can remain there until the column has passed, and then mount their cycles, repass the column upon the main road, and repeat the proceeding. Eight or nine sections of cyclists will thus efficiently block all lateral roads in succession for a column of from three to four miles in length.

If, however, for advance and flank guard duties, we added to the cyclists a small party of cavalry, the two arms together could perform these functions, as neither of them could do so alone, and indeed, in an almost ideal manner. If acting on the flanks, the cavalry will be able to keep touch across country with the cyclists that are moving on parallel roads, and they will prevent the occupation of tactical points which command these roads, or isolate them from the main road. Similarly, a troop of cavalry acting in conjunction with a company of cyclists in advance guard work, will be able to perform the duties of drawing the coverts on each side of the road, without, in any large degree, enhancing the mobility of the cyclists, and the main body will thus be able to continue its march in absolute security without those continual halts which are inevitable if the advance guard consists of infantry only. I should indeed be sorry for a troop of cavalry that had to perform these duties for many days in succession, for one day's advance guard work once a week with cyclists would be quite as much as the horses would stand. At the same time, it would be much easier for a regiment of cavalry to detail one squadron a day for the performance of such duties in conjunction with cyclists than to perform them alone every day of the march, and the condition of the regiment as a whole, and its consequent efficiency for any demand that might be made upon it at any moment for other purposes, would be proportionately better. As an illustration, I may quote the advance of a convoy, of which I was in charge from Leith Hill to Woking in 1904. The escort to my waggons was formed of two companies of infantry, two of cyclists, and one of mounted infantry, the latter furnished by the Queen's Westminster Volunteers. During the march the cyclists, acting on the flank, were able to give the enemy—consisting of the local Rifle Clubs—all the fighting that they had any stomach for. A running fight was conducted about a mile or a mile and a half away from the convoy, and the mounted infantry served the useful purpose of



keeping touch between the cyclists and the convoy, and of occupying any tactical points in that hilly country, which were inaccessible to the cyclists as cyclists. The consequence was, that the whole energies of the enemy were directed upon the cyclist and mounted infantry fight, and the convoy was enabled to make its way through a country where every native was in arms against it almost without opposition, and, what was even more remarkable, without the knowledge of the enemy's commander, who was unable to get any reliable information as to its whereabouts.

Platitude number two is, *that cyclists cannot take their machines into action*. It should never be forgotten that while on the march they are infantry mounted on cycles, in action they become infantry cumbered with cycles. A column of cyclists on the march will take a much longer time in deploying from the road for fire action than it will take a corresponding force of cavalry or mounted infantry to do, and this, for the simple reason that the cavalryman's horse is a tactical weapon with which he can manœuvre under fire, whereas the cyclist's machine is merely his seven-leagued boots, which give him immense strategical value on the march, but which he has to take off to come into the firing line. Similarly, in the pursuit of a retreating enemy, the cyclist is delayed because he has to go back to his machine before resuming the advance, whereas the cavalryman or the mounted infantryman can have his horse brought up to him.

Again there are partial remedies, and here I should like to enter a protest against the general theory that for safety and security cyclists on the march in the supposed presence of the enemy should be widely strung out, and, in fact, that there should be no main body at all. It is perfectly true that if the advance points come into contact with the enemy, it will not be long before the whole of the rest of the column, however strung out, will be able to reinforce the firing line. At the same time, it is essential that the commander of the party should, at the very commencement of the tactical problem, have his men well in hand. I have myself always found it pay better to have three or four parties of scouts thrown out along the road about a mile in front of my column, and to keep my main body closely locked up, than to maintain a too widely extended formation. In this way my main body is immediately available without confusion of any kind for tactical purposes. On the signal "Halt!" being given, section commanders run out and lie down alternately on the right and left of the road on a line at right angles to that road. Their men, as soon as they have detached rifles, lie down behind them in line extended to one pace. The commander of the column is then able to handle each section without shouting or fuss in the way in which the tactical situation seems to demand.

For a pursuit, the disadvantage of having to return to the machines before resuming the advance is largely minimised if sections follow each other in succession from the outer flanks of the firing line to their machines on the road, mount and so resume the advance, covered by the fire of those nearest to the road, who will be the last to follow in the pursuit. It is also quite possible to train the men to ride one cycle and lead another, and in this way the parties which are detailed to retire first are able to take with them the machines of the parties who are covering the retreat with their fire.

When I speak of a main body riding in close formation, I of course mean close formation as cyclists understand the phrase. It is



a curious fact, and at first one that is hard to comprehend, that in column of route the men in rear of a column of cyclists are forced to ride much harder than those in front. The only remedy to apply to the concertina-like tendency of a column of cyclists in undulating country is to leave intervals of from 25 to 50 yards between sections, and of from 50 to 100 between companies. The limit to the number of men who can be usefully employed as a tactical unit upon one road has come to be fixed at 500. Riding in file each cyclist occupies a distance of 3 yards, and 500 multiplied by 3, or 1,500 yards, is the limit of depth upon one road which will enable any body of infantry to be quickly deployed for action. Once the cyclist is dismounted he becomes a pure infantryman, but with this disadvantage, that his machine demands at least two yards for itself. Once more, however, it is clear that the usefulness of cyclists in the pursuit will be greatly enhanced if they are employed in conjunction with cavalry.

A further result from the confinement of cyclists to the roads is their liability to surprise, and this, whether in motion, as already described, or when halted. I have too often seen bodies of cyclists halted in manœuvres who have taken no precautions whatever against surprise. The cyclist seems to consider it beneath his dignity to use his ten toes, and commanding points on the right and left of the road are too infrequently occupied by dismounted patrols. This is a precaution which, though it of course entails a good deal of running about on the part of individual men, should never be neglected.

I consider that cyclists are most unsuitable for convoy work. The essential feature of such work is, that the flankers should move parallel with the convoy, and at such distance from it as to prevent its being fired into. As I have already explained, cyclists cannot perform this duty efficiently; they are confined to the roads, and roads, as we all know, have a habit of running, not along the tops of ridges, but at the bottom of valleys, or even in defiles. In conjunction with other arms, however, a company of cyclists can be of the greatest assistance to a convoy commander, and can save both the legs of his infantry and the sinews of his horses.

The casualties to which cyclists are liable from punctures have been greatly exaggerated by their opponents. One puncture should not delay a section at all, and the average of punctures in the roughest country would not exceed 5 per cent. The man who is unfortunate enough to suffer a puncture can repair it in five minutes, and if worse befalls his machine, he is much better off if abandoned to his fate than the cavalryman whose horse is shot or lamed.

It is supposed that a column of cyclists on the roads, coming under a heavy fire, would suffer very great loss, and that if the leading men were shot down, all those in the rear would come to grief over their prostrate bodies and machines; but experience of cyclist manœuvres leads me to the conclusion that accidents resulting from the fall of one man in the column are extraordinarily rare, and although a company of cyclists upon a white road would seem to present a target to the enemy which he could not miss, I am not certain that our South African experiences against a mounted enemy quite bear this out. How often has one "browned" into bodies of men seemingly in the closest order without hitting one of them; how difficult has it been to bring down a galloping man, even at the closest range! When we remember that the cycle presents a smaller target than the

horse, and on the road travels at twice the speed, I think we shall all agree that the cyclist is probably the most invulnerable to bullets of all the arms.

A good deal has been made of the degree to which the speed of the cyclist is dependent upon the wind and the weather. Against a very strong headwind it may be impossible for him to make more than 4 miles an hour, and in a very clayey or muddy lane, his wheels get clogged and he cannot ride at all. It is, therefore, argued that it is impossible to reckon with any certainty upon a body of cyclists arriving at any given point in time, and a staff officer will, therefore, prefer cavalry for special duties of this kind if he can get them. But if the cyclist is dependent upon wind and weather, so is every other arm, and whereas the cavalry horses, after a week of bad weather, are permanently and seriously depreciated in value, the cycle, when the fine weather returns, is as good as ever it was. General Bronsart von Schellendorf states that an infantry division, under favourable conditions, can perform a march of 14 miles in six hours, but that in bad weather and on heavy roads it would take from nine to fourteen hours to accomplish the same distance. A body of cyclists might well march 14 miles in one and a half hours, but it would be difficult in the worst of weather for it to take three and a half hours for that distance, which, as General Maurice has pointed out, is only in the exact proportion of the delayed march of the division.

These arguments do not, however, preclude the need for palliatives where possible. High physical training, good march discipline, and constant practice will as good as double the speed of a cyclist column in bad weather. Something also may be said for the use of ground. For example, if I were asked to march north from A to B over high plateau land, where a strong northerly gale was blowing, and I found it possible, by taking a circuitous route, to creep up a valley or two, where the wind was not blowing in such force, I should certainly avail myself of the valleys, more particularly if by riding north-west and then taking a tack to the east, I avoided the headwind all the way. In calculations of this sort for staffing purposes, the presence of a cycling officer on the staff, who is *au fait* with the possibilities of the bicycle under any given climatic conditions, seems indispensable. Of course, if it was only dispatch riding that was required, it would be simple enough to-day to select, in bad weather, a motor cyclist for the duty, but as I hope in a few minutes to explain, invaluable as the motor bicycle is for dispatch riding, it seems to me to be quite unfitted for anything like tactical purposes.

I now pass to *the strong points of the military cyclist*, and these may be summed up in the axiom that it is legs rather than arms that win battles. The *superior speed and endurance of the cyclist*, as compared with the cavalryman, over long distances, is unquestionable. I have already given some examples of rides which the cavalryman could not possibly perform. In 1901, the battalion to which I belong was on trek from Winchester to Swanage, which was in possession of an enemy represented by the Hampshire Yeomanry. A contact squadron of cyclists was despatched from Winchester to Swanage at 8 o'clock on a Monday morning, and by 4 p.m. had informed us at Romsey of their arrival in Purbeck Island. So little exhausted were they by this performance that they spent the best



part of the next 48 hours in lying out upon the hills and watching the Yeomanry, a report of whose every movement was sent back to the infantry column doing its poor 20 miles a day on the road. Nor is the cyclist entirely limited to the metalled road; I have successfully manœuvred four cycle companies mounted against a regiment of cavalry mounted on the grass of Salisbury Plain. Provided that there is anything like a decent surface, he can ride over any track, and even down a footpath leading by stiles across country, and in this way can often take a line which the cavalry trooper would find it difficult to make his charger negotiate. As England is *par excellence* the country of tracks and of footpaths, the ubiquity of the cyclist in England is undeniable, and when it comes to scouting, the bicycle buried under leaves in the ditch, and the cyclist in a furze bush or up a tree, denote *powers of concealment* quite unsurpassed by the cavalryman.

In 1903 I was in command of a convoy which left Aldershot on a Saturday night *en route* for Winchester. The cyclists of the battalion concentrated that same night at Andover. On arrival there, they were informed of the departure of this hostile convoy, and they were instructed to find it and hang it up. Marching with the convoy I took the obvious precaution of availing myself of local knowledge and avoiding the metalled roads. Nevertheless the ubiquity of the cyclists was such that at 7 p.m. on the Sunday night some of their scouts discovered my convoy marching through a wood in the neighbourhood of Itchen Abbas, and by 7 a.m. on the Monday morning the whole force had concentrated and surrounded my bivouac three or four miles further on. As an illustration of their powers of concealment, I will refer again to the contact "squadron" in Purbeck Island in 1901. Their presence became known to the Yeomanry because they posted a certain railway bridge in the district as "blown up," and parties of Yeomanry were sent out to find and capture them; but though they rode all through the gorse in which they were concealed, they never succeeded in seeing so much as a bicycle, in spite of the fact that all the time, as I have already explained to you, messages as to the doings of the Yeomanry were reaching the main column every two hours by day and by night.

As regards the question of equipment, I will call your attention to the cyclist corporal of my regiment now in the hall. He has had considerable experience, not only of cyclist manœuvres in time of peace, but also war in a country that would seem quite unsuitable for cyclists; he was for over a year with the Cape Colony Cyclist Corps. He is equipped as we equip the men in our own battalion for manœuvres, and as he would equip himself if he were required to come out for a month's active service at home without transport of any description, but of course in a friendly country. The only change that he would possibly make when it came to the real thing would be the substitution of wooden for steel rims; and he tells me that in the rough South African country, at any rate, the wooden rim will not "buckle," whereas the steel rim does this about twice a week. I am not sure that in addition he should not carry a revolver, though one's general experience of revolvers is that they are more dangerous to oneself and one's friends than they are to the enemy. He would always ride with his magazine charged, and with a cartridge in the breech. He is carrying 100 rounds on his person, and 50 in his valise, and spare



ammunition for his company would be carried upon a motor trailer I have heard it said that cyclists should not carry bayonets, but the bayonet seems to be returning to favour pretty generally, and if the cyclist will not have occasion for a bayonet charge on foot—and I am far from saying that he won't—his bayonet will at any rate prove very useful to him as an entrenching tool. To supplement it I think every company should carry entrenching tools and dynamite upon motor trailers. The great point, however, about the cyclist, as you see him there, is his *self-sufficiency* and his absolute freedom from the need for transport. He can feed himself on the country in which he is operating, and what is perhaps most important of all, his bicycle does not eat or drink.

The next virtue of the cyclist is his *power of rapid mobilisation*. I have already given you an instance of this in the little operations round Itchen Abbas. General Maurice has given you another in his manœuvres of 1901, and there is no doubt whatever that a hostile landing might with proper organisation be, within 24 hours, surrounded by a net of cyclist posts on every road. As we are all aware, the Volunteers are the only force in this country which could be mobilised—such as they are—in 24 hours, and there is no reason why a considerable number of military cyclists might not be despatched from their head-quarters in any direction within 12 hours of the landing of the enemy.

Of course, Sir Frederick Maurice would be the first to admit that his cyclist net is only a net, and its meshes can be broken, or at least forced back, at any point. I have two illustrations from my own experience of what happens then. At the manœuvres held by the cyclists of the Home District, under Colonel Cooper, in 1904, a cyclist net of this description was retiring upon a broad front over every road that led directly or indirectly from Borden to Hartford Bridge Flats. The company with which I was present was ordered, if possible, to break the net. We succeeded in doing so, and were able, by great good fortune, to put out of action two links or strands of it in succession; but on our arrival at Hartford Bridge Flats we found that the news of the breaking had reached all the other parts of the net, and the consequence was that an unbroken front was presented to us on our arrival at the Flats. Last May, again, the Hampshire Brigade advanced on a broad front from the line Ringwood-Southampton-Winchester upon Salisbury Plain, and was protected by a torpedo net consisting of a cyclist screen pushed out two miles ahead of each column. Our enemy—the cyclists of the Manchester Volunteer Brigade—succeeded in breaking the net near Stockbridge, but the only result was that it closed up behind them, and when they fell back in some confusion before the infantry columns two miles behind, they found themselves rather badly enmeshed in it.

The power of rapid mobilisation will of course also give to cyclists considerable value as a party to make a night or other forced march for the seizure of some point of strategical importance, such as a bridge-head, a defile, a railway junction, etc. The position can be entrenched with tools brought up on motor trailers, as I have already suggested. In 1904, at the manœuvres at which Colonel Cooper was Chief Umpire, an operation of this kind was undertaken against Colonel Godley's mounted infantry at Borden. Cyclists coming from Camberley in the morning occupied a strong position on the line of

hills to the south of Farnham; so strongly indeed that the projected advance of the mounted infantry against them proved impossible.

I have already discussed some of the difficulties involved in using cyclists for protection; but it will be obvious that if, unaided, they are unfitted for advance-guard work, *they are the ideal arm for rear guards*. The mere fact that the best position for a cyclist in retreat is the top of the reverse slope of a hill, and that his speed in riding down hill is much greater than that of even a galloping horse, will, I think, force us to admit, without further argument, that the cyclist rear guard can develop the greatest possible show of resistance, followed by the most rapid retirement to the next position. I well remember the wrath amongst my comrades in the infantry of the battalion to which I belong when, in order to enliven the tedium of a 20-mile march, the cyclists were told off to act against the battalion as if they were the rear guard of a retreating force. Although their strength was perfectly well known to the officer in command of the infantry, he was forced at every mile to deploy the whole battalion before he could in any way make it necessary for a comparatively small number of cyclists to retire. Instead of marching 20 miles that day, I should think that individual infantrymen must have done at least 30 miles.

It is generally admitted that cyclists are of great value in *outpost work as a supplement to other arms*; but in some of our longer marches in my corps we have found it imperative to spare the infantry from outpost work altogether. Necessity has therefore forced upon us the employment of the one arm which can do from 20 to 30 miles a day without unnecessary fatigue. I am probably pronouncing heretical views, but I fail to see how a small column—say 1,500 men—marching for any distance and for any length of time through hostile country, can spare nightly a sufficient proportion of its strength of infantry to secure it immunity from surprise. Cyclist posts pushed out to a radius of two miles from such a force on every road that leads to the bivouac, and in occupation of every position that commands the same, may indeed not provide absolute security in the way that an infantry outpost is supposed to do, but will at least give nearly half an hour's warning of the approach of hostile parties. I am not at all certain that for small columns of this description it will not be better to allow all the infantry an undisturbed night, and to provide merely for due and timely warning of the approach of the enemy by the use of cyclists or cavalry posts of this kind.

I have already referred to the very obvious value of cyclists as scouts; but in addition, large bodies of cyclists have great value for conducting *reconnaissances* on a large scale. The Manchester cyclists, to whom I have just referred, were able in one day to obtain most accurate information regarding the movements of columns that stretched from the New Forest to Winchester, and this information was brought in and digested so speedily that the complete report of the whole was in the hands of the Chief Staff Officer at Salisbury early in the afternoon. For a reconnaissance, it is of course invaluable to have good scouts; but if in addition, for the protection of the scouting parties, and if necessary, for driving back the enemy's screen, you have a force which, in addition to being very mobile, can develop a considerable body of fire, you have all the qualities which conduce to a successful reconnaissance. Their noiselessness and extreme speed also lend great value to *night marches* conducted by cyclists.



It is only the existence of police traps and the requirements of a too densely populated country that have accustomed us to the use of lamps at night, and it is quite possible, even on the darkest night, for large bodies of cyclists to ride without lights. For encircling the flank, or riding through a neglected point in an enemy's line, and turning up in the morning in occupation of some vital position 100 miles away from where they started, cyclists, whether they move to this position on one road, or, as would probably be better, on several, might have considerable effect. On our approach to Purbeck Island in 1901, I well remember taking part in such a night march. Just before dawn we ran into an outlying post of the enemy's cyclists, but were able by hard riding to capture them all. The consequence was that by sunrise we had struck in behind our enemy and held a position near Corfe Castle which commanded his line of retreat. As a matter of fact, the battle between the main columns resulted in the victory of the enemy, who were not therefore compelled to retreat. But our party of cyclists was in no danger of being surrounded in its turn; and I venture to think that the knowledge of the presence of an enemy, however small, upon his lines of communication would prevent even the boldest general from giving battle in his front.

The rapidity with which cyclists can thus be transferred, either by day or by night, from one flank to another or to any threatened point enormously adds to their value, and on occasion it may even be found, if it is desired to cross an unfordable river or an arm of the sea, that they are the only mobile troops that can get into the available ferries or boats.

Having now discussed the strong and weak points of cyclists when employed alone, I pass to *my main conclusion*. It is quite clear, though for some reason or other it has not yet been practically recognised, *that cyclists are strongest and most valuable when employed in conjunction with cavalry*. It would be utterly beside the mark for me to discuss at any length the comparative value of the cavalryman alone against the cyclist alone in the defence of Great Britain. Personally, I should be willing at any time to meet a regiment of cavalry with a similar number of infantry mounted on cycles; but there are many cyclist officers of experience who believe the mounted man to be the *bête noire* of the cyclist. Mr. Trapmann, for instance, of the 26th Middlesex, in his excellent little book on "Cyclists in Action," writes that in outpost skirmishes, scouting, etc., cavalry, especially where they can take a cross-country line, should invariably be able to ride down cyclists. Mr. Trapmann, however, reminds us of the important point that after a few weeks' campaigning it is hard to get any real pace out of cavalry chargers, whereas the bicycle does not necessarily deteriorate at all. In close country I do not think the cyclist has anything to fear from mounted men. Mr. Trapmann admits that the individual cyclist offers no target to speak of, and if outpaced uphill by a galloping horse can slip off his machine and become that infantryman which, as the drill-books have it, is, if he keeps cool and fires straight, a match for any cavalryman. A horseman and his horse, on the other hand, form a large target, and the horse is more vulnerable than the bicycle. The horse does not move as quietly as a man, and infinitely less so than a cyclist. Cavalry acting in large bodies on an open plain might indeed outpace cyclists; but if the cyclist chooses the right time for converting himself into a cool infantryman, he will make a cavalry charge a very risky proceed-



ing, more especially if he is sheltered by tree trunks, or walls, or is able to choose a position behind broken ground or ground covered by obstacles. When it comes to fire tactics, cyclists can employ all their rifles, the cavalryman only three out of every four.

In general, however, Great Britain is not a cavalryman's country. I am not certain that I have ever come across any country which is; but there is no doubt that the use of large masses of cavalry, as conceived on the Continent, is out of the question in the close country which is so frequent in England. Even a squadron of cavalry will be always closing up to pass through gates or gaps in the hedge or tracks through woods, and while doing so will offer perfect targets to infantry or artillery fire; and as a general rule, the cavalry in most parts of England are as much obliged to cling to the roads when on the march as cyclists. Still, whatever the comparative merits of the cavalryman and the cyclist for home defence, it is obvious that each of these arms supplies what is wanting in the other. If the cyclist can cover long distances in the day, the cavalryman can make a more searching reconnaissance. If the cavalryman is quicker at seizing any given tactical point, the cyclist, when he does arrive there, arrives with less fatigue, and can develop more fire, and presents a smaller target to his enemy. The curious thing about our trainings up to date is that the infantry and the cyclists usually train by themselves, and the Yeomanry by themselves. It is much to be hoped that when the projected organisation of the Auxiliary Forces into mobile divisions of all arms is finally realised, more frequent opportunities will be given for combined operations of cyclists and Yeomanry, not against each other, but in combination with each other. I am told that there are several regiments of Yeomanry who have realised the value of cyclists for scouting and dispatch-riding purposes, and how greatly a small proportion of cyclists in each Yeomanry regiment will save horse-flesh. For these purposes I hold that every squadron of Yeomanry should have at least six men mounted on bicycles, and having regard to the great value of considerable bodies of cyclists in support of all cavalry operations, I would even go further and urge that each Yeomanry regiment should mount one squadron of its men upon bicycles. One is of course fully aware that the Yeomanry serve a further purpose than the *rôle* that is or should be assigned to them in the Home Defence Army, and I am far from saying that we should reduce the number of men in this country who are being taught to ride and encouraged to keep horses. The value of the Imperial Yeomanry as a supplement to our Regular cavalry and mounted infantry in the South African war will scarcely be forgotten, and the proportion of men mounted on horses to men on foot in our Foreign Service Army is already far too small. At the same time, although I fear that such an arrangement would seriously militate against the enrolment of cyclists in the Volunteers, it seems indisputable that in addition to their present strength of mounted men there should also be a class of yeomen cyclists.

Before I sit down, perhaps I should touch upon a few points concerning the interior economy and organisation of cyclist volunteering. As I said at the beginning of my lecture, a great deal of valuable time is wasted for cyclists owing to their employment being made to subserve the interests of the infantry regiments to which they are attached, and cyclists should have frequent opportunities of being assembled in large numbers for purely cyclist manœuvres, or for cyclist man-

œuvres aided by cavalry, after the model of the manœuvres organised in past times by Sir Frederick Maurice. Colonel Cooper—whom I am glad to see here present—will bear me out when I express my sense of the extreme value of the cyclist manœuvres which take place every Easter in the Home District, at which other cyclist corps not in that district are sometimes privileged to attend; but I understand that in other parts of England the assembly of cyclists in anything like the numbers to which we are accustomed in the south is very rarely found possible.

There is one criticism which, if I may be allowed to do so, I should like to put forward as regards our Home District trainings. Possibly owing to the severity of the weather at that time of year, or more probably owing to financial difficulties, all the cyclist corps that come out at Easter are tied to standing billets. This, of course, very much militates against the reality of the manœuvres themselves, and with a force, the whole virtue of which lies in its mobility, in its independence of transport, and its power of covering great distances, I confess that I should like to see an Easter training at which two bodies of cyclists started 200 miles apart and passed the night in those places and under those circumstances which the progress of the manœuvres from day to day required of them. If there is any member of the 26th Middlesex here present, he will no doubt remind us that one of the difficulties that I have referred to, viz., that the cyclist is made the handmaid of the infantryman, would be obviated by the formation of cyclist battalions, or in country corps, at any rate, by setting apart one particular district as a recruiting area for the cyclist company and for that alone. I am not certain indeed that in the big towns separate cyclist battalions would not be the best expedient, and I am glad to hear that there are proposals afoot, at any rate, for a dépôt battalion of Volunteer Cyclists in London, which shall train the men for a certain period before returning them to the cyclist sections of their infantry battalions. But in the country corps, like those to which I belong, this system would not work at all. By excluding all districts save one from the cyclists, we should lose a large number of highly eligible men who would not enrol as infantry Volunteers; and in the selected district, on the other hand, the necessity of maintaining a full company would depreciate the high level at present maintained by the cyclists. The cyclist companies in many country battalions are the cream of their battalions, and so serve indirectly to raise the general average even in the infantry. It is true that the men are, almost without exception, the sort of men who are needed so badly for non-commissioned rank, and that the infantry is depleted of non-commissioned officers in consequence; but at the same time, there are few cyclists, as far as my experience goes, who, if not allowed to enrol as cyclists, would not shear off altogether. In most battalions I believe that this superiority of class is recognised to what I should call an undesirable degree. In particular separate cyclist messes are the custom in camp, and these messes rank in importance only after the sergeants' mess. If the full benefit of the superiority of the cyclist, both as a man and a soldier, is really to be felt in the battalion as a whole, I feel certain that the rule which we strictly maintain in our battalion of treating cyclists and infantrymen on an absolute equality in regard to such privileges, is the only sound one.



It is indeed unfortunate that the authorities have seen fit to reduce the compensation grant for cyclists from £2 to £1, but as I have already alluded to this matter, I need do no more than call attention to it as raising a very important point in interior economy. It is much to be hoped that on the principle that the Volunteer should suffer no out-of-pocket expenses, and be asked to give nothing but his time, some means may be found for restoring a compensation grant which was by no means too generous.

No paper upon cyclists in the year 1905 would be complete without some reference to the use of motor cars and motor bicycles. I believe we are to hear all about the motor cars in this hall in a few weeks' time, and I will only say as far as cyclists are concerned, first, that a motor car is a *sine quâ non* for an umpire at cyclist manœuvres, and for the commander of any considerable number of cyclists and his staff. But the motor car in the firing line is worse than a white elephant, and motorists should therefore be careful to confine themselves to discreet though invaluable work in the rear, and upon lateral and other lines of communication. In the same way a motor bicycle is not a handy thing under fire. It will not turn round quickly, and it generally succeeds in getting out of gear just at the critical moment; also in wet weather its driving band slips and its battery short circuits. It is very noisy and warns the enemy's scouts, though I have sometimes found this noise mistaken for a machine gun; but for intercommunication between the firing line, dispatch riding, etc., the economy of human energy which it effects when it does not break down makes it infinitely more valuable than the cycle. Where I think the motor mechanic might most usefully come in, is in the provision of motor vehicles for the transport of reserve ammunition, entrenching tools, repairing outfit, a cyclist field forge, ambulances, etc., and a cyclist machine gun driven by a motor would also be of great value; and I would even go further and suggest a "pom-pom," or even a light mountain gun. This motor artillery would be valuable, not so much for its actual fire effect, as for the purposes of bluff, and the doubt that it would create in the mind of the enemy as to the nature and strength of the force to which it was opposed.

The number of cyclists in the Volunteer Force at the present moment does not much exceed a total of 6,000, and what is more, this number is on the decrease. There is great variation in different corps. In my own corps we have no less than 200 cyclists on the rolls, and can accordingly always put two companies in the field. In other corps—and especially in some of the London corps—the cyclists' section consists of an officer, or non-commissioned officer, and not more than 20 men. These, however, are more often than not the corps which regard the cyclist as the handmaid of the infantry, and have either not yet realised to the full their value as a separate arm, or think that a separate arm should have a separate establishment. I should be afraid to say what is the number of persons in the United Kingdom who use the cycle, not merely as a convenience, but as their chief means of recreation, but if they were all enrolled in the Volunteer Force their numbers would greatly exceed a million men. General Maurice, as you are all aware, hopes that in the case of invasion, many of these civilian cyclists might be found to co-operate, but with regard to these, as with regard to Rifle Clubs, the first step is to get such clubs properly affiliated



to the local companies of Volunteers, and, if possible, exercised with them on two or three days in the year; and in view of what I have said on the necessity of smart drill and constant practice for valuable cyclist work, we should, I think, regard these affiliated clubs as a reserve only, to be mobilised and trained on the outbreak of war after the embodiment of the recognised Volunteers.

If the need for more cyclist Volunteers is apparent, the need for cyclist officers is more crying still. I confess I cannot quite understand why this should be. Perhaps we have not quite lived down the old ridicule under which cyclists used to lie, and I confess myself to a feeling of a want of dignity when I bicycle in uniform past the sentries at Wellington Barracks. There is also the point that the cyclist officer is very generally alone, and so misses the companionship which is so pleasant a feature of the camp training. In the day-time, and sometimes at night, he is many miles away from his battalion; if he works hard, he is seldom present at mess, and he certainly loses a good deal of the corporate life of the regiment. On the other hand, as far as instruction is concerned, the cyclist officer has all the fun of the fair. While the infantryman is on outpost duty or in reserve, or one of the rear companies in column of route, the cyclist officer gets touch with the enemy at the very beginning of the day, and keeps it up until the manœuvres are over. He is almost entirely his own master, and has to act mainly upon his own responsibility. He is always under the notice of the generals and the umpires, and if he does useful work, comes in for quite a disproportionate amount of praise. Even in his own battalion his comrades of the infantry come to him for all kinds of information; he is eagerly questioned as to the position of the enemy, the general ideas of the day, the nature of the country, the distance to any point; he is the map, Baedeker and compass of his battalion, even though he be only a second-lieutenant. If he commands a full company of cyclists in the field, the extent of ground which they cover, and the ambitious nature of their undertaking, confer upon him the responsibilities and position of a colonel, if not of a brigadier. He is attended by a whole host of orderlies, and many is the village at which, upon arrival, he finds himself the cynosure of all eyes.

At the same time the combination of qualities required of the cyclist officer, as of the cyclist, is a rare one. He must be always cool and collected; without calmness and presence of mind his control of even a small number of cyclists becomes a farce. He must have the tactical instinct developed to a high degree; he must be able to make up his mind in a moment, and act with vigour and determination. He is always in danger, and the whole *raison d'être* of his existence is in the nature of a risky gamble. He is set tasks that no other branch of the Service could perform; if he succeeds in his mission, he accomplishes a task out of all proportion to his intrinsic value as a fighting unit; if he fails, he may even so escape scathless from the venture. He has always to be asking himself whether the game is worth the candle, and what are the odds on or against success. I hope that the reluctance of gentlemen to come forward for cyclist work is not prompted by the very just consideration that if it ever came to real warfare, the game would be almost too exciting. Whatever we may say of the usefulness of cyclists, there is no doubt that in war they would suffer losses out of all proportion to those to

be faced by any other arm; and there is the further drawback that more often than not, when the cyclist did die, he would die without glory, with no one to look on and admire, and a strong probability that his body would not be found until the war was over. As an illustration of what I mean, perhaps I may quote the following passage, in which Mr. Trapmann lays down what would be a very proper procedure for a cyclist scout:—

“Should it happen that scouts riding along a road come upon an ambuscade, so carefully laid that they are only aware of it when they are practically riding through it, they should endeavour to control their surprise and show no token whatever of what they have seen. The betting is, that the enemy will allow the men to pass on unmolested, hoping to catch the main body. Once out of point-blank range he must get to whatever cover he can and give the alarm by emptying his magazine into the enemy's position. Having thus warned the column, he will, of course, have to work out his own salvation for himself.”

These are brave words, but I would ask you just to realise what such action would mean in real warfare.

Some of the more enthusiastic of us look for the day when to the Auxiliary Forces of this country will be entrusted the almost entire duty of home defence. If that day ever comes, and we see the mobilisation of complete army corps of Auxiliary troops—an Army shall we say of 150,000 from the north operating against a similar Army in the south—I will only ask you to consider how the operations might be affected if the general of one of the opposing forces were given a brigade of 6,000 cyclists, quite independent of transport, able to ride 60 miles a day at ordinary rates, and 100 miles with forced marches. I think you will agree that the state of mind of his opponent during the course of those manœuvres would entirely preclude any necessity for further lectures in this hall, for the purpose of demonstrating the strategical and tactical value of cyclists.

The CHAIRMAN (Major-General Sir J. F. Maurice, K.C.B.):—Before calling upon any of the officers present to address us, I should like to read you a letter which has been received from General Baden-Powell on the subject of the lecture. After expressing regret at his inability to be present, as he has another important engagement to fulfil, he says:—“*Cyclists for Cavalry*. They have been used some years past with cavalry in open countries (e.g., Matabeleland, 1896; India, 1897; and South Africa, 1899-1903) for dispatch riding and night scouting, and in enclosed country for both dispatch riding and scouting. A small establishment of bicycles is allowed by Government to each cavalry regiment, which I hope will shortly be increased to 40. Captain Duly's cyclists in General Plumer's column of my force did particularly good service in the late war, especially in carrying dispatches to and from Rustenburg and Pretoria, when the intervening country was in the hands of the enemy—a feat which could not have been done by horsemen. Though they cannot of course take the place of cavalry, a certain number of cyclists in each cavalry regiment are of invaluable assistance; and I believe that cyclist mounted infantry and cyclist field troops of R.E., and cyclist medical



orderlies would be of very great benefit to the cavalry brigade on service in certain countries." I am afraid that rather takes the view of the cyclist as a scouter than the particular aspect of him with which the lecturer is concerned; but so far as it goes it is most interesting.

Colonel R. J. COOPER, M.V.O. (Commanding Irish Guards):—As my name has been mentioned by Major Johnson twice, and as I took part in the Easter manœuvres in 1904, perhaps it is only right I should be allowed to say one or two things in connection with the subject under discussion. The first point I should like to emphasise is the statement of the lecturer as to the necessity of cyclists moving in solid masses as well as having scouts in front, and the absolute importance in that way of their being able to concentrate their fire at once. The principal aspect of the subject, however, in my view is that we should not be too ambitious yet with regard to a Volunteer Cyclist organisation. We should consider the question from the point of view of their usefulness in home defence, and not look at it from any other standpoint. Having adopted that view, I think it would be a good thing to treat them as mounted infantry for home defence in the United Kingdom. Acting in that capacity, they would, in a great many ways, be able to fulfil all the conditions required of them, equal to, if not better than, other troops. I do not think we should at present consider their powers of working independently, because I think it would give rise to want of discipline and make them a very difficult body to control. The suggestion that Volunteer Cyclist units should work with the Regular cavalry is, I think, a little ambitious; but I quite see the point which has been raised of their usefulness in connection with the Yeomanry, and I think it would work. Finally, I do conceive from the small experience I had last year that, as companies of mounted infantry are largely trained as infantry to learn the discipline of infantry, so cyclists should first of all be infantry, and I do not think they should at present imagine themselves fit to act as cavalry. I think that is very important, and I think that is the basis on which we should start, whatever may come later on.

Colonel A. R. SAVILE (late 18th R.I.R. and late Professor of Tactics, etc., R.M.C., Sandhurst): — It has been a great pleasure to me to hear from Major Johnson the progress that has lately been made in military cycling, particularly as it comes from a member of a Volunteer corps of a county like Hampshire, which has done so much in the past to promote military cycling. Wherever I have been with cyclists, the Hampshire sections have been with me, and have always been prominent in smartness and good work done. It must be very pleasant to come and lecture here nowadays on military cycling without the fear of being trampled upon by the audience, as we used to be in the old days, when we had to fight for our existence, and to argue that we might be allowed to exist, for if we were only given a little longer time we would try to prove that we could do something from the military point of view. I was very pleased to find that the things which seventeen or eighteen years ago we believed we could do are exactly the things which are claimed now by all exponents of military cycling as those that can be done and are done. One of the first things I noticed to-day was the remark by Major Johnson that cyclists are not regarded as a distinct arm. I do not think there has ever been a desire to regard cyclists as a distinct arm, either by the cyclists themselves or by anybody else. Cyclists are infantry. What kind of infantry? Mounted infantry



—one form of mounted infantry. I do not think anybody can claim more or less for a cyclist than that he fulfils the function of mounted infantry, which is an infantryman given means of moving faster than his own legs can carry him, whether he goes in a cart, or on ponies, or in a train, or in a balloon, or anything you like. An infantryman is a mounted infantryman if you give him superior means of locomotion. I do not think we—as cyclists—want to be considered a distinct arm. It would be rather disastrous for Major Johnson's corps, which he says includes 200 cyclists, if those 200 men were to be considered as a distinct arm. We do not want to be anything better than mounted infantry, and I believe cyclists could do mounted infantry work on certain occasions. I do not say the cyclist is the best form of mounted infantry. He may be the best in one campaign in one country, but he may be the very worst form of mounted infantry in a different campaign in a different country. With regard to their position in line of battle, I can only say it is my belief that the greatest military authorities have decided that battalions of cyclists as mounted infantry find their place with the advanced cavalry. When I say advanced cavalry, I do not mean the advance guards of the various columns on the roads; I mean the cavalry screen, which, in Continental warfare, covers the whole of the front, and the strength of which would be wonderfully increased by the presence of infantry. The cavalry screen, as every student of history knows, has often been stopped by troops in a defensive position. Cavalry cannot turn troops out of a defensive position; they want fire power, and infantry or horse artillery must supply it. Or sometimes the advanced troops may have to hold a post for a certain time; but cavalry do not hold defensive positions. You might ridicule this if I said it was my idea, but I say that the greatest military authorities have come to the conclusion that mounted infantry (and I include cyclists in the mounted infantry) find their place with the advance cavalry. What about the battle? Where the cavalry, which has been advanced, is throughout the battle, there will the mounted infantry be also. In a lecture of this kind it is impossible for the lecturer to include in his remarks everything which he wished to say, or everything which his audience may wish to hear. What I should have liked very much to have heard from Major Johnson, and what perhaps he may touch upon in his concluding remarks, is, How are his cyclists selected? Is it well understood that the cyclist has to be a particularly good soldier, and that every man in the 1st Volunteer Battalion of the Hampshire Regiment is not a fit man to be one of the Hampshire cyclists? He ought to be a better man than the ordinary class of recruit, and he has to be still more highly trained. It is all very well to collect a number of men, to supply them with bicycles, and to say you have a cyclist infantry force. I do not call it by that name. It is a cyclist force, but it will not be able to do the duties of cyclist infantry. I consider cyclists a very delicate force—when I use the word “delicate” I use it in the same way as if I was talking of the works of a watch, which are very wonderful and beautiful to look at; at the same time they are very delicate, and so are cyclists. It seemed to me that Major Johnson rather avoided the subject of casualties. I think the knowledge that casualties are frequent, and the measures taken to prevent casualties to machines when cyclists are on the march, is one of the most important things that a cyclist commander should bear in mind. Major Johnson said that punctures are generally over-rated, and gives 5 per cent. as the average. I do not know what 5 per cent. means. Is that 5 per cent. per hour or per day or per campaign?

Major JOHNSON :—Per day.

Colonel SAVILE :—In my experience that is a low average. Even when cycles were fitted with solid tyres we had more casualties, and machines do break down in the most extraordinary manner. I think it is one of the duties of every commander of cyclists to take note every time that he rides out, of the casualties that occur to the machines. Every machine should have a number, and every casualty or puncture or anything which goes wrong with the mechanism of the cycle should be recorded. By that means an officer gets to know which of the mounts in his command are chronic invalids, which have sudden and serious complaints, and which of them are generally immune from casualties. That is a very important thing. I also think that generals, when they inspect bodies of cyclists, ought to enquire what number of casualties there have been. You have to get your men to the place where they are wanted, and not only the men must be fit, but the machines. In that connection I should like to give you a little experience of mine. At one of the manœuvres — about the year 1888, I think it was — I remember having a most excellent machine built for me, with every military requirement, by one of the leading makers in the world. We were to start on the manœuvres from Guildford on the way to Salisbury. We paraded in the station-yard at Guildford, which you may know is just at the foot of the hill going up the Hog's Back. I started from the White Hart Hotel, at the top of the High Street, to ride to the parade ground, and my machine broke down—absolutely irreparably—between the White Hart Hotel and the station-yard. Now, that is a thing that might happen to any machine. Just as an instance of the resourcefulness of cyclists, I should like to mention that the parade I am referring to occurred on Good Friday morning. I sent my orderly officer back into Guildford to get a machine out of a cycle shop, but I told him I must have a proper mount to go on with. He said: "I will get you one." He went up to London, took a new machine out of a cycle shop in Holborn Viaduct, to the great anger of the caretaker, an old woman who was left in charge for the day, and overtook me between Winchester and Stockbridge the same afternoon with that machine. I do not think anyone but a smart cyclist could have done that. In conclusion, I beg to express my thanks to Major Johnson for the pleasure I have derived from hearing his lecture.

Major W. BURTON STEWART (Lothians and Berwickshire Imperial Yeomanry) :—I will not attempt to speak on this occasion from any practical knowledge of cyclists used in large bodies, but I should like very much, if I may, to say a word or two on the usefulness of cyclists acting in connection with mounted troops. As a Yeomanry officer, my duty when on reconnaissance and other duties of that sort is to take care of my horses; and for the last few years, on manœuvre days, we have also taken out a few cyclists, and the trouble, the sore backs and the sore legs which we have saved, even with a small number of cyclists, is simply extraordinary. I have consequently arrived at the opinion that every Yeomanry regiment if possible ought to have a certain number of cyclists attached to it, and I think that is Major Johnson's contention, in which I thoroughly agree. I have never approached any of the authorities on the subject, but I wish somebody who has the ear of the authorities would try and push this matter to some conclusion. Horses are very expensive and cost a lot to feed, and when you have got



them you have to take great care of them. I think the most useful part of the cyclist's work will probably be with the advanced line or advanced screen in connection with cavalry. I cannot speak of their usefulness at other points, because I have never had the opportunity of going into manoeuvres with a large body of cyclists; but I can quite see that when some position has been found for them, it would be a very excellent idea if, attached to a cavalry regiment, there was a squadron or a hundred cyclists, who could at once bicycle along as fast as they could and occupy the position, allowing the cavalry screen to get on ahead. There is one point on which I am rather inclined to differ from Major Johnson in practical warfare, and that is this: He seems to think that a horse would be able to catch up a bicycle. From my experience of warfare in South Africa, and from noticing the state into which horses get after they have been a few months on a campaign, I should say the probability of a horse catching a bicycle is very small indeed. I have been very much interested indeed in Major Johnson's lecture, and I sincerely hope that something will be done in the matter, and that some encouragement will be given—especially to Yeomanry regiments—to get cyclists to join them as Yeomen, not as cyclists pure and simple.

Major J. E. SEELY, D.S.O., M.P. (Hampshire Imperial Yeomanry)<sup>1</sup>— I am sure that this meeting, which I do not wish to detain by any lengthy remarks, would not like to separate without thanking Major Johnson for his very interesting lecture. If no one else is disposed to move a vote of thanks to him, I think perhaps I may be permitted to do so, because I had the honour to command the lecturer when he was in South Africa. It occurred to me while he was speaking that possibly his great enthusiasm for the bicycle may be due to the fact that he had two horses killed under him, and on another occasion his horse broke his neck, and that therefore he now thought it was preferable to adopt some means of conveyance which offers a less target to the enemy. However that may be, speaking as a Yeomanry officer, I entirely agree both with what he said and what the last speaker said as to the great utility of a force of cycles with every body of troops, whether it be Yeomanry, Cavalry, or Mounted Infantry. The enormous waste of horse-flesh which takes place in all peace manoeuvres, and certainly in war, owing to the absence of cyclists, must have been present to the minds of anyone who has had charge of horses. Every day, whether in peace or war, the problem always is to get to the commanding position as quickly as possible. For that purpose, cycles should certainly be employed, for, as anyone who has ever commanded horses knows, it is that gallop in the morning to seize the position which does such immense harm to horses, and may involve the country in time of war in the expenditure of many millions, and in time of peace in the expenditure perhaps of many hundreds of thousands of pounds. I have no hesitation in saying that if the lecturer's suggestion were adopted and cycles were attached to every mounted force, we should save an immense sum of money to the country in the saving of horse-flesh alone. I imagine that our distinguished Chairman, whose knowledge of war is as great as ours is of peace, will agree with that statement. As to how it should be done, I do not know. Whether it would be best to enlist cavalrymen or Yeomen as cyclists, or whether it would be better to attach them to their own units I leave to wiser heads than mine; but that they should be attached permanently I have no manner of doubt. Major Johnson



made several very interesting suggestions, but after all they all bear upon the possibility of getting troops of all kinds in the Auxiliary Forces to work together at their annual training. Once that can be done, once the jealousy between the Yeomanry, Volunteers, and Militia is swept away, and they work together under Army officers in combined manœuvres at each annual training, all these difficulties will disappear. I will not detain the meeting any longer, except to say that I believe I express the sentiment of everyone in this room when I thank Major Johnson very much for his most interesting lecture.

Major H. A. STENNING, 26th Rifle Brigade (Volunteer Cyclists):—As one of the original members of the Cycle corps of 1888, and as brigade cyclist officer in the Home District, this lecture has been of great interest to me, and there are several points in it which, even at this late hour, I should like to touch upon very briefly. The first point is with regard to the cyclist formation in coming down a road—what I call the disorganised formation and the organised formation. We, in the 26th Middlesex, adopt a medium between the two. We have the advanced section in the disorganised formation, and the main body in the organised formation. From the diagram that Major Johnson drew, I understood his disorganised troops did not have any advanced section at all; they simply had pairs, or, as we call them, files coming down the road. That is a hopeless sort of formation, as anybody knows who has had any practical experience of peace manœuvres. I prefer the advanced section to advance one man at a time, thus one man followed by another man at ten yards, each man taking the alternative side of the road, this gives him cover under the bend of the road. I think Major Johnson's disposition on the word "Halt," if I may say so, is a little premature, because you do not always want to spread your men out on each side of the main road; you may want them for a rush to force the enemy back at once, or reinforce the advanced section. I understood from him that he did that automatically, whether he had made up his mind to halt or not. Perhaps I misunderstood him. I have also been extremely interested in the discussion on the question of cyclists in the Yeomanry. I am delighted to see the interest which mounted men are taking in cyclists. I remember the time when they would not go within miles of them; now they want them so much that they are longing to have a few with their battalions. I am very pleased to see it. I have issued several times lately challenges to Yeomanry regiments in this district to go out and do a little Saturday afternoon fighting, and they have invariably said it was too far to go, or that the horses would not stand it, so that it has not come to much. I sent a challenge to an officer commanding a Yeomanry regiment at Seaford, and he told me it was quite impossible for him to accept it unless he worked on the top of the Downs, which were open for his men to extend upon. We cyclists naturally do not work from the top of the Downs; our work is in close country; so the fight did not come off. I hope the Yeomanry on some future occasion will be able to come down from the Downs and fight in the close country with us. We have had some very good days in the past, and I have no doubt we can offer them some good days in the future. Major Johnson did not touch much upon the question of the organisation of cyclists; the great mistake has been in raising sections consisting of twenty men and an officer, instead of raising battalions. Here in London there are only about three cyclist companies outside the 26th Middlesex (which is very weak, I am sorry to say) which can muster

anything like seventy men. The rest are sections. Every commanding officer likes to have his own cyclists; nine out of ten like to have them marching at the head of the band on their way to Hyde Park, and when they get there they say: "You are a bit of a nuisance; get behind 'The Magazine.' " That is a fact, because, as brigade cyclist officer, I am meeting with it every month, and the sooner that sort of thing is done away with the better. We want cyclist battalions; I do not say in the provinces, where the battalion is spread over many villages. One recognises that they must be handled differently. But here in London, in Liverpool, and the big towns, where there are many battalions with head-quarters in the towns, there ought not to be cyclist sections, but battalions. After seventeen years' experience I have seen no good come of the cyclist sections. Sometimes an officer is keen on them, and directly he is keen he is taken off to command an infantry company. Undoubtedly the cyclist section enlists the best men of the battalion; and there I come to the important-point that not every man can be a Volunteer cyclist. We must have intelligent men, men who can read a map well, and make a sketch, and do a higher class of work which the ordinary Volunteer, at least in provincial battalions, cannot do. I think (as Major Johnson has not said it, I will say it for him) the best men in the Hampshire battalions are to be found in the cyclist companies. With regard to finance, it is a pity the Government have cut down the £2 grant to £1; but I am coming to think that £1 is good enough. I would rather have half a loaf than no bread. I should like to have the £2, of course, but I will be content with the £1, if I can keep it, but I am afraid we shall not keep it, and if we do not keep it I do not know where we shall be—there will be hardly any of us left. Major Johnson touched on the question of motor cycles, and I quite agree with him that they are not much good except for dispatch riding. I do not think they are any good except for that. With regard to the Easter Manœuvres, I quite agree with him in what he said about the standing billets. I have in hand a scheme which I hope to carry through, by which, with motor transport, vans capable of carrying a ton or two tons twelve miles an hour, we may be able next year to carry out manœuvres in which the standing billets will be done away with, and I hope to write to Major Johnson very shortly on the subject. I think motor transport must be used with cycles. Motor transport becomes more reliable every year. I have been using it largely in camp this year for working with cyclists; I had a 5-ton motor lorry, and I got 8 miles an hour out of it every day over the Sussex roads round Seaford. It was a cumbersome thing, and I ought to have had a lighter lorry, or two lorries taking a couple of tons each; but there again I was hedged in by financial considerations. The authorities only consider one 5-ton lorry equal to one horse and two mules under the present Army establishment, and only pay 30s. a day for it. As regards the machines the cyclists use, any good make of machine is good enough. Everything depends on a close inspection of the machines by the officer commanding the company or unit. We have in the 26th Middlesex a very close inspection indeed, because we give no money for compensation unless the machine has been passed by a competent board of inspectors. I believe that is the same in many corps. With regard to the number of punctures, I agree with Major Johnson that they are very much over-rated. The number is probably anywhere between 4 and 6 per cent.; personally, I do not think there is much in the question. With regard to the new machine that broke down, an old hand would never use a new machine without always fully



testing it first and giving it a good trial. With regard to the clip for carrying the rifle, there again it is six of one and half-a-dozen of another. There are several ways of carrying the rifle; what suits one machine does not suit another. If the men have their own machines, which are of different patterns, they must to a certain extent be allowed a wide limit in the selection of the carrying clip. I very cordially support Major Seely's vote of thanks to Major Johnson for his very interesting lecture. We have had a most interesting discussion on it.

Captain D'ARCY LEGARD (17th Lancers):—As a cavalryman I should like to back up Major Johnson's most able remarks on the subject of the combination of cavalry with motor cycles and bicycles; but I must protest against the narrow-minded view that he has attributed to cavalrymen, that they did not recognise the value of bicycles. I assure him that such is not the case. At the German manoeuvres, at which we were both present three weeks ago, I noticed particularly that the advance regiment of the cavalry division had a large body of cyclists on the exposed flank, and they did most excellent work. I should like to see attached to every cavalry brigade a certain number of motor cycles and military cyclists. I agree with the broad view of one of the previous speakers, that cyclists are only one other form of mounted infantry. I should wish them to form a part of every cavalry regiment—we do something in that way already, regimentally—but I should like to see the scheme more or less recognised by Government. There was one small point upon which Major Johnson laid great stress, namely, that cyclists could not take their machines into action. I would remind him that the weak point in connection with cavalry is the number of led horses. The led horses are liable to stampede, whereas cycles are not, and in that case I think he has the better of us. With regard to the duties of cyclists, I think they fit in exceptionally well if one considers that the ground that is favourable to one is unfavourable to the other. As Major Johnson pointed out, roads that are good for cyclists knock up the horses' feet; on the other hand, ground that is good for cavalry, such as downs and unenclosed country, is of no use to cyclists. The combination of the two is therefore a thing one would like to see pushed forward. It must also be remembered that at night cyclists are of great use, especially as the view nowadays is that cavalry should be withdrawn from the outposts in order to spare the horses, the value of which is exceptional, and of which the supply is limited. Finally, the difficulty that one experiences with all cavalry is their not being absolutely independent. I submit that in combination with cyclists, a cavalry brigade would be absolutely independent.

Major R. A. JOHNSON, in reply, said:—At this late hour of the afternoon I will just mention a few of the points raised by the speakers, and no more. I am exceedingly pleased that all the representatives of the mounted Army present agree with me in the main. Major Seely, Captain Legard, and Major Burton-Stewart have all supported me, and there has not been a Yeoman or Cavalryman present who has not agreed more or less. And this is very important, because I had a special warning from General Baden-Powell that I was to be very careful; shall I say—I think it is the correct expression—not tread on the toes of the cavalry. At any rate, I have not done that, I am delighted to find. When I said that cyclists could not take their machines into action, I meant this: With the cavalry the led horses are a trouble; but at the same time, I always regard as the cavalry



man's main arm, not his sword or his rifle, but his horse. That is his engine of manœuvre, that is what he strikes terror into his enemy with, that is also the means by which he gets into position. It is really where the cavalryman goes, more than what he does when he gets there, which has the great effect, I take it, upon tactics. The cyclist, on the other hand, cannot manœuvre with his machine under fire; it is not his arm at all; it is merely his seven-league boots which he uses on the road, and takes off when he comes into action. With regard to the question of motor transport, I cut that portion out in reading my paper owing to the shortness of time; but I quite agree with Major Stenning in what he said on the subject. Obviously motor transport will be used for guns, reserve ammunition, entrenching tools, and such other appliances as a cyclist acting on home defence need carry with him. Everybody is kindly disposed towards the military cyclist; the natives of the district always treat him well, and the cyclist always knows where the best places of refreshment are to be found. So I think the need for supply transport is not so great as it is with other arms, but such transport as he does carry will be carried by motor. Obviously the motor has come to stay. With regard to the reduction in the cyclist grant, I am very glad to hear that Major Stenning can do with £1. In my regiment we feel the loss very severely. As a matter of fact, a very highly-placed personage made a verbal promise to myself and to my battalion treasurer some six months ago that the grant was to come back again to us; but in my paper I have only to deal with facts, and we have not seen that grant yet! It really is rather an important point. The cyclist has for a certain number of years had £2 a year for the wear and tear of his machine, and this year this sum has been reduced to £1. In the first place, you have to equip your cyclist. As he rides a bicycle, there are certain articles of his apparel which wear out very quickly, and you have to supply him with a good many pairs of them; and there are various extras which make an equipment rather expensive. In addition to that there is his machine. It is all very well for the civilian to say: "I take my machine across country," and the rest of it; but the civilian who talks like that does not know what it is to ride with a rifle on his machine and, say, twenty or thirty, or, in serious manœuvres, forty pounds of kit also, on the machine. It is a very great strain on the machine in riding across rough country, and, under rough conditions, with all this weight, very seriously deteriorates it. We found that the old £2 grant, if it was divided into £1 a year paid to the man for the deterioration of the cycle itself, and £1 paid to battalion funds to meet the extra equipment and also to go towards paying for his travelling expenses, and so on, was not any too much; and certainly my experience in my battalion is that if we are going to lose this £1 by having the grant cut down from £2 to £1, the inhabitants of Hampshire will have to put in even more patriotism than they have done hitherto. Colonel Savile wanted to know whether the cyclist was a specially selected man, and seemed to think it was very necessary that he should be so. I do not know that we select him exactly; he selects himself. It is quite true that we tell him he has to be an infantryman first, and when he has passed out as a first-class infantry recruit, then he goes into the cyclist corps. I entirely agree with Colonel Savile, that the cyclist must be first of all an A1 infantryman and a marksman. After that we can begin to use him as a cyclist, but I do not agree that you must select him after and not before he has joined the Volunteers. Our experience is that any man who comes forward, who is properly trained, who has

the right officers, who has his heart in the right place, and who works hard enough, can be made into the quality that you require. We do not exactly select these men when they enrol themselves; they do so on the understanding that they have to do double the work of the infantryman, and that they are not to call themselves cyclists until they have passed out as infantrymen. Major Stenning referred to the desirability of confining all cyclist enrolments to special cyclist battalions in large towns. I have no experience of big towns, but it seems to me very obvious that special cyclist battalions would be the proper thing in London. At the same time, if the 26th Middlesex do not get the recruits, somebody else must get them. I do not understand how it is that there are not sufficient candidates for cyclist work, not only in the 26th Middlesex (which certainly if I was a London man I should join to-morrow), but also in the other infantry battalions. It is most extraordinary. The whole of London goes out on a Saturday afternoon on bicycles, and yet they will not join the Cyclist Volunteers. Of course, in country districts, of which I have had some experience, it would not work, because our only plan would be to box off a certain part of our recruiting districts for cyclist companies. Then we should only get a certain number of men who ride bicycles; the supply would be strictly limited. If we recruit over the whole of our area, on the other hand, there is no limit to the number of good men we can obtain. In addition, we get a very good class of man for the cyclist, the sort of man required as non-commissioned officer for the infantry, and there is always the possibility of transfer to the infantry for such purposes. I quite agree with Colonel Cooper, that it must be clearly understood that cyclists are infantry and not cavalry. It seems to me that mounted infantry are infantry, and in no sense cavalry. I think perhaps Colonel Cooper misunderstood me when he said I was ambitious in that connection. All we want to do is to co-operate with the cavalry, and by no means to pretend to be cavalrymen, which we undoubtedly are not. I must thank you very much for the kind way in which you have received this paper. I am delighted to find, first of all, that the interest in cycling has in no way gone down; and, secondly, that there is this notable advance in theory in the Regular Army, that it is becoming to be recognised more and more that in future the two mobile arms—cavalry and infantry mounted on cycles—should always act in co-operation, and that no regiment of cavalry should be without cyclists and *vice versa*.

The CHAIRMAN (Major-General Sir J. F. Maurice, K.C.B.):—I do not think there is anything for me to say, except to congratulate you most heartily, which I do with much pleasure, on the most practical discussion that I have ever heard on any subject in this Institution. The practical character has been very largely provoked by the excellent lecture to which we have all listened. If we could only get in this hall oftener as thoroughly business-like a discussion as we have had to-day, we should all rejoice in the value of the Institution for this particular purpose. Therefore, being thoroughly satisfied with the way in which you have yourselves threshed out the subject, I do not propose to do anything more than congratulate you, and to formally ask you to accord a hearty vote of thanks to Major Johnson for giving us so admirable a lecture, and for having given occasion for so excellent a discussion—a vote of thanks which has already been proposed for him by Major Seely.

## THE KAISER-MANÖVER IN GERMANY, SEPTEMBER, 1905.

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*Adapted, with the kind permission of the Editor, by the Special Correspondent of the "Standard," from his accounts in that paper.*

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THE country selected for the Kaiser-Manöver of 1905 was that part of Hesse-Darmstadt which lies in the angle formed by the confluence of the Rhine and the Lahn.

The scenery on the Rhine above Coblenz is well known to every traveller, for it is at this point in his journey up the historic river that he enters the region where the long ridges of vine-clad hills, ascending at almost every mile to tumultuous castle-topped peaks, and closely hugging the river bed with their precipitous slopes, present to his delighted gaze that type of scenery which from his early boyhood he has always been taught to associate with the Rhine. The valley of the Lahn, which is not navigable, is less well known, except in the near neighbourhood of Ems—famous for its mineral springs. That river, again, is a miniature Rhine, flowing between vine-clad slopes crowned with ruined castles and rising to an altitude of from 200-300 feet above the level of the river bed.

Leaving the valley and climbing any of the winding roads which lead up from the right bank of the Rhine or the left bank of the Lahn, we find that instead of being girt with hills, as appears from below, in reality they are rivers flowing through an undulating plateau land, in gorges which are cut out to a depth of from 200-300 feet below the level of the surrounding country. This rolling plateau land is divided almost equally into arable land and woodland, populous with farmsteads and agricultural villages. While the Rhine on the W. flows almost due N. and S., the Lahn on the North flows E. and W., and the plateau land itself is divided into a series of gently sloping ridges and valleys by three streams—the Mühlbach, the Dörsbach, and the Aar, which flow parallel to the Rhine valley northwards into the Lahn. The ridges themselves are broad in expanse, and the conformations of the ground present the general features which are familiar to all English soldiers who have manœuvred on the South Downs. To an Army barring the eastward advance of an enemy coming up from the Rhine valley below, these valleys and ridges offer a succession of admirable defensive positions, the right flank of which will rest upon the defiles of the Lahn. Metalled roads are plentiful and good, and traverse the whole country from E. to W. and in equal numbers from N. to S.



The General Idea for the operations we are about to describe was as follows:—

1. A main Red Army (imaginary) coming from France, like so many French Armies of history, has forced the passage of the Rhine at Mainz, and, having defeated a Blue Army Corps, and driven it back upon Coblenz, is marching north-east upon a main Blue Army (imaginary), which is concentrating at Marburg.

2. The Blue Army Corps (VIIIth) at Coblenz is reinforced, and ordered to operate upon the left flank of the Red advance.

Composition of VIIIth Corps (General von Deines commanding):—41st, 16th, 15th Infantry Divisions, and 25th Infantry Brigade; three regiments of cavalry, 39 batteries of artillery. In addition, a cavalry division of six regiments and two batteries of horse and two of machine guns. In all, some 30,000 men. On 11th September the 16th and 15th Divisions are on the left bank of the Rhine, the 41st Division on the right bank at Neuwied. Cavalry Division A at Neuwied and Ems.

3. The XVIIIth Corps is at Homburg, detached from the Red Army, to deal with the VIIIth Corps, and by 11th September has reached Esch, 25th Division; Idstein, 28th Division; Hahn, 21st Division; Flank Guard, Langenschwalbach; Cavalry Division B, Camberg.

Composition of XVIIIth Corps (Lieut.-General von Eichorn commanding):—28th, 21st, and 25th Infantry Divisions; three regiments of cavalry, 36 batteries of field artillery. In addition, a cavalry division of six regiments, with two batteries of horse and two of machine guns.

On 12th September the following moves took place:—

#### *Blue.*

On the 12th September the Corps with the 16th Infantry Division advanced from Hatzenport by way of Ober-Sondershausen, Dörth, the 15th Infantry Division moving from south of Coblenz by way of Udenhausen. At St. Goar and Boppard strong advance guards were thrown forward on the right bank of the Rhine, and on the night of the 13th September bridges were built. The 41st Infantry Division, moving along the right bank of the Rhine, reached the neighbourhood of Dachsenhausen, Braubach, Becheln. The Cavalry Division (A) advanced from Ems by way of Nassau, Schweighausen, on Ruppertshofen.

#### *Red.*

On the 12th September the 25th Infantry Division, moving by way of Kirberg-Schönberg, reached Kördorf; the 28th Infantry Division, by way of Panrod-Zollhaus, reached Katzenelnbogen; the 21st Infantry Division, by way of Strinzmargarethausen, reached Laufenselden; the flanking forces reached Holzhausen; Cavalry Division (B), by way of Katzenelnbogen, also reached Holzhausen.

#### *Observations.*

This day was a day of marching and of cavalry patrols. By bringing the 41st Division, already across the Rhine, south to

Dachsenhausen, General von Deines covered the southward march of the rest of the corps, who were engaged in pontooning the Rhine at Boppard and St. Goarshausen preparatory to crossing early the following morning. The Red infantry, on the other hand, reached Kördorf, Katzenelnbogen, and Laufenselden, where they bivouacked behind an outpost line. The advanced supply dépôts, which were organised for both sides by General Gallwitz, were placed beforehand in the positions reached during the evening. They consisted of stores of forage for the horses, of straw for the bivouacs, and of firewood, bread, coffee, and tinned meat for the men. The transport is mainly civilian, hired for the occasion in the district, though the civilian drivers are under the orders of men of the A.S.C. Each regiment, on its arrival at its bivouac, sends back a party to bring up one day's supplies from the supply dépôt, never less than ten miles away, not in the regimental transport, which is practically non-existent, but in the wagons of the supply dépôt. This system is only possible because the men carry all that they require for twenty-four hours on their backs, including a square of "*tente d'abri*" apiece, and the wagons from the supply dépôts bring out nothing but rations and forage every evening, returning empty to the dépôt as soon as they have discharged their freights. In this way the long lines of transport which accompany every British Army in the field are entirely eliminated from a German Army, and the divisions stand quite unhampered, with full power to develop their whole strength in the fight. The system is an excellent one, and adds enormously to effectiveness. Whether we could adopt it in England or no depends upon whether our men could carry 50 lbs. of dead weight upon their backs, and sleep without blankets and without beer. The infantryman's knapsack and the whole system of transport and supply are realities of war which are never absent from German manœuvres, and never attempted in our own.

By 10 a.m. the outposts of the 41st Division, which had started from Neuwied that morning were already in position near Dachsenhausen, and while information was being obtained by means of cavalry and cyclist patrols to the front, and by the war balloon at Dachsenhausen itself, the divisional commander was seated at the table whereon stood the telephone which connected him with General von Deines at Coblenz, and so with the other divisional commanders, on the march down the left bank of the Rhine.

The independent Blue Cavalry Division had orders to move from Neuwied and Nassau in a south easterly direction upon Rupertshofen, a commanding position overlooking Nastätten, and the valley of the little Mühlbach.

The chief function of the vast masses of cavalry which are maintained in the German Army will be, on the outbreak of war, to cross the frontier by rapid marches, and perform the double duty of obtaining information of their enemy and of covering the concentration of the German Armies with an impenetrable screen. This was also the rôle assigned to the Blue Cavalry Division. It was probable that the Red commander would use his cavalry for the same traditional rôle. It was noticeable that despite the existence of several parallel roads, General von Katzler kept his whole division to the single winding and hilly road which runs from Nassau through Singhofen, Marienfels, and Miehlen. In the English Army, six



cavalry regiments of five squadrons would be regarded as a considerable force, and would have advanced on a front of several miles; but in Germany, six cavalry regiments are, apparently, regarded as quite a small one to be kept to one road alone. Nevertheless it seemed to us that the rapidity of the march was thus seriously hindered, and the horses unduly fatigued by the frequent checks and trotting inseparable from a column of route over a mile long. Wide patrols were, however, thrown out, and at Marienfels these came into contact with the cavalry patrols of the Reds.

The opposing patrols were soon inextricably mixed up. No single patrol retired before another — it hardly so much as took notice of the hostile parties. In many cases hostile patrols passed within 50 yards of each other, and not one, but several, parties of Red thus passed through the Blue screen, and stood in observation within 500 yards of the long column of the Blue Division. In Germany there are on such occasions no blank cartridges, no pretence, but several excellent reports to go back to the generals on either side. It is recognised that it is quite impossible without bullets to imitate the conditions of combats between small parties, and in the impossibility of providing an umpire for each party, the German Army, with great wisdom, makes no attempt at such imitations. In the matter of operations of Regiment *v.* Regiment, or Brigade *v.* Brigade, we understand that the training of the individual man in such details is carefully studied, but in grand manœuvres it would appear that the whole stress is quite rightly laid upon the actualities of war—to wit, upon the importance of boldness and rapidity in reconnaissance, and in the prompt dispatch of accurate, even though negative, information. The chances of single combats are the fortunes of actual war. But in manœuvres the Germans hold, and hold rightly, that that side of manœuvres only is valuable which is real. One noticed, indeed, many failings. The German is naturally a bad horseman, and the horses looked hardly up to their sturdy riders, with his immense additional weight of a full campaigning kit. The men were rarely, if ever, dismounted on the march, to spare their horses. On patrol duties, too, horses were not kept out of sight, and reconnaissances were never on foot. Nor was there a single instance that one could see of the employment of dismounted fire. In short, the tactics of the German cavalry are bold and offensive even to a fault, and the drill of the regiments held second only in importance to the intelligence and education of officers and men.

Ruppertshofen was reached at 11 a.m., and the Red Cavalry Division was located at Holzhausen, on the east side of the Mühlbach Valley.

By the occupation of the heights of Ruppertshofen with his cavalry, and of Dachsenhausen with his 41st Infantry Division, General von Deines secured himself on the west side of the first of the three ever-deepening valleys which, as we have said, run down northwards to the Lahn, while his enemy's outposts were located on the eastern heights behind Nastätten. As the main bodies went into bivouac, and the cavalry scouts jostled each other in Nastätten, it was clear that this and the neighbouring villages would on the morrow be the scene of a struggle for the passage of the Mühlbach Valley.



SEPTEMBER 13TH.

*Special Idea—Blue.*

The G.O.C. VIIIth Army Corps intends to continue the advance on the line Bogel-Emmerich and to attack the enemy.

*Special Idea—Red.*

The XVIIIth Army Corps will cross the line Attenhausen-Roth-Holzhausen, and thrust back the enemy wherever it meets him.

*Official Narrative—Blue.*

The VIIIth Army Corps crossed at 4 a.m., the 16th Infantry Division and 25th Infantry Brigade at St. Goar, the 15th Infantry Division at Boppard-on-Rhine. The 41st Infantry Division advanced to Emmerich and Pissighofen. The Cavalry Division (A) remained at first at Ruppertshofen; the 15th Cavalry Brigade pushed forward to the north-west of Oelsberg.

After concentrating at Bogel, the 16th Infantry Division advanced to the attack on Nastätten, which, at first repulsed, then renewed, put it in possession of Nastätten, and the Hollerberg. The Cavalry Division (A) at Wallmenach covered the right flank.

The 15th Infantry Division marched by way of Dahlheim-Weyer on Kasdorf.

The 41st Infantry Division advanced by Ehr-Schaarheck and the woody country east of Emmerich, fighting a winning action against the 25th Infantry Division, which was advancing by Marienfels and Geisig. During the later course of the action, the 15th Infantry Division entrenched itself at the right moment, in order to drive back over the Mühlbach the enemy (28th Infantry Division), who were already in possession of the Endlichhofer heights.

*Official Narrative—Red.*

The XVIIIth Army Corps advanced to the attack with the 25th Infantry Division on Marienfels-Miehlen, the 28th on the Endlichhofer heights, and the 21st by way of Nastätten on Bogel. The Cavalry Division (B) was advanced in order to surround the enemy's right flank by way of Nieder-Meilingen on Wallmenach.

The 21st Infantry Division succeeded in the first instance in driving back an attack by the enemy on Nastätten, and pushing on eastward of Bogel; but, having suffered heavy losses from the overwhelming artillery fire of the enemy, it was obliged to retire in the direction of Holzhausen, on the enemy making a renewed attack on Nastätten.

The 28th Infantry Division won the ford at Miehlen and to the south. It took possession of the Endlichhofer heights, which it held for a time, but lost to the 15th Infantry Division, being compelled to fall back on Bettendorf.

The attack made by the 25th Infantry Division, by way of Geisig, with the view of surrounding the enemy's left wing, was repulsed by the 41st Infantry Division, and the 25th Division retired on Singhofen, by way of Berg.

The Cavalry Division (B) fell back in the direction of Laufenselden on the retreat of the XVIIIth Army Corps.

### *Observations.*

There is one innovation, at any rate, in the adoption of which the German Army has followed the example of the British. The German Motor Volunteers were the new feature of the manœuvres, and their organisation follows exactly on the lines of Colonel Mark Mayhew's useful corps. Even down to such details as the adoption of a khaki uniform, silver buttons, a brown leather sword belt, and a smasher hat, the two corps are practically indistinguishable. The ornamental and very useless naval dirk is the only original feature about the one Volunteer corps in all Germany. The initiator of the movement is the first colonel of the corps, Count Brandenstein, and the Kaiser himself is its principal recruiting officer. Thus it happened that the Great General Staff were quartered in Coblenz, some thirty miles from the scene of operations, to which they proceeded each morning in the cars driven by the members of the corps.

While we are upon the subject of Germany's debt to English experience, it is worthy of note that the German Army is not blind to the unsuitability of their familiar dark blue uniforms, and, above all, of their brass-bound helmets, for the conditions of actual war. The helmets, indeed, and the uncovered mess-tins flash like heliographs even on a dull day, and render an unobserved advance impossible. The Red Army Corps, however, were provided with slate-grey canvas covers for their helmets to distinguish them from the Blues, and there is little doubt that it would be thus disguised that a German Army would take the field. In wooded country the dark blue uniforms, when not given away by the burnished helmets, are, of course, sufficiently invisible; but on the light stubbles of a September morning they rendered yet more perfect the huge targets already offered to the enemy's artillery by the deep formations in lines of company column which are in vogue for the infantry of the supports. But though the blue uniform of glorious traditions will die hard in Germany, experiments are being made with other colours; in particular we noticed one battalion which was clad in a close imitation of the apple-grey and red facings of the Queen's Westminster Volunteers.

On the night of the 12th September the outposts of the opposing Armies stood facing one another on each side of the Mühlbach valley, and if the Red Army could drive the Blue 41st Infantry and the cavalry divisions out of their strong positions on the heights about Geisig and Ruppertshofen before the arrival of the 15th and 16th Blue Divisions, the Blue Army would be plunged in irretrievable disaster. By 4 a.m. on the 13th September the heads of the 15th and 16th Divisions had crossed the pontoons built during the night across the Rhine at Boppard and St. Goar respectively. By 6 a.m. all were across, the pontoons removed, and the leading battalions already on the top of the rolling plateau which leads towards the Endlichhofer heights—a performance which bears striking testimony to the war readiness of the German organisation. Arrived at Bogel, and in realisation of the sound doctrine of the offensive-defensive, the 16th Division had not been content with passively awaiting attack. Pouring down under cover of the thick fog which

masked their movements and concealed the absence of supporting columns, their right protected by the cavalry, the 7,000 men and 72 guns of this division made a fierce onslaught upon Nastätten, in the valley below them.

Met there by superior force in the nearest approach to hand-to-hand combat that mimic warfare can show, the gallant single division was thrust back up the heights again, while the Red 28th and 25th Divisions threatened its left flank, and seized the Endlicher heights and the high ground still further north, at Marienfels and Geisig. It was now the turn of the Red Army to follow up their success, while the Blue Division stood at bay, and its commander, seated at the telephone, impatiently awaited the aid of the 41st Division at Geisig and the 15th Division from the Rhine. The Blue Cavalry Division, though worsted in several charges of regiment *versus* regiment, still held his right flank secure in the woods round Wallmenach; but by 8.30 a.m. the enveloping attack of the XVIIIth Corps, in full strength, forced him to refuse his gravely imperilled left and rally to the high ground at Bogel, where the presence of the Kaiser himself seemed to bid him stand and die.

The attack of the VIIIth Corps which now followed was a surprising spectacle indeed. Possibly it was only intended as a spectacle. The thick fog, the firing line six deep, the opposing batteries standing in the open within 1,000 yards of each other, the dense masses of expectant cavalry on the flanks, the supporting battalions hastening forward with drums beating and bands playing in deep dark columns, the heavy and continuous roll of musketry, the rapid fire of 200 guns, the deafening cheers of bodies of men that charged each other in the fog, the inextricable confusion betwixt friend and foe, recalled, not an action in South Africa, or even in Manchuria, but some such Homeric struggle of the past as Inkerman. From 8.30 to 9.0 a.m. it was a veritable soldiers' battle, and the doom of the 16th Division seemed pronounced. Would or would not the 15th and 41st Divisions strike in from the north in time? A counter-attack to be successful must be made exactly at the right moment. If made too soon, it will itself be overwhelmed by the onslaught of the enemy's yet unexpended reserves. If made too late, the battle will already have been lost. There is no surer sign of good generalship than the choice of the exact psychological moment for the counter attack. That day, as at Waterloo, it was an affair of minutes only, and, as at Waterloo, a Blücher was not found wanting.

Precisely as the last columns of the attacking infantry had swung out into line on the hill leading up to Bogel, and surged like breakers on the beach against the shattered remnant of the 16th Division, the fog lifted, and the morning sun showed the whole remaining strength of the VIIIth Corps hurrying forward from Kasdorf and Emmerich on the north to strike the flank of the Red Army obliquely in decisive counter-attack. Simultaneously the hard-pressed 16th rose and charged boldly down upon the foes, now scarce 200 yards away. The grand attack of the XVIIIth Corps had failed, and they withdrew to their positions east of the little valley of the Mühlbach.

We have said that the spectacle was magnificent, and have hinted that so it was purposely intended to be. To a battle under modern conditions it bore not the slightest resemblance. The strategical moves, the larger tactics of the battle-field, the timely co-operation of the fresh divisions of the Red Army—these things were excellent,



both in conception and realisation. Of the two forces, Red, perhaps, showed the less co-operation. The attack lacked cohesion; the artillery failed too often to push forward to closer range during the advance. Even so—no English army corps is often handled half so well. The minor tactics, on the other hand, were laughable; one can hardly think that they were seriously intended to be tactics. Certain it is that no German general, save, perhaps, the Emperor himself, even pretends to imagine that formations prevailing at the battle of Bogel and the Endlichhofer heights could approximate in the very faintest degree to the formations of actual war. Extended formations are indeed practised at the earlier manœuvres of battalion *versus* battalion or brigade *versus* brigade, but at the Grand Kaiser-Manöver there is no place for the detailed instruction of the rank and file.

The first impression of the English spectator was undoubtedly one of astonishment, perhaps even of amusement. On second thoughts, however, he might be led to modify his view. It is on the face of it out of the question that so thorough and scientific a nation as Germany, so widely read and deeply reflecting a body as the German General Staff, could have shut their eyes so absolutely to the clear lessons of every war that has been fought since the introduction of magazine rifles and smokeless powder. Manœuvres are for instruction, and what instruction, it may be argued, can be obtained (even by the greatest possible exercise of imagination) from the study of minor tactics without bullets? The Germans surely hold that to anticipate the deadliness of warfare, and the confusion and dismay of the battle-field, is a sheer impossibility, and should not be attempted. Nay, more; they would maintain that to inspire all ranks with the "paramount importance of cover," as our "Infantry Training" has it, is to place the personal safety of the individual before fire effect, and to introduce a palsied caution which will bid a superior Army halt the moment that fire is opened.

We in the British Army at least know the dangers of an excessive caution, which is partly imposed upon us by our inadequate numbers. It may have been impossible to advance at Colenso; to have employed the Guards' Brigade at Magersfontein in attempting to push on where the Highlanders had failed might have meant heavy loss, but it might also have meant victory. On other occasions the risks were much less, the caution even greater, and British generals are not unknown who have preferred the canny avoidance of disaster to the possibility of a costly victory. In South Africa the sound maxim that once the attack is launched it must be pushed home at all costs was rarely, if ever, practised. An attack such as that witnessed on the 13th September was frankly impossible. In reality it would have been an affair of hours, or even days, not of minutes, and the spade would have played an equal rôle to that of the rifle. But the "methodical progression from point to point, each successive capture weakening the enemy's hold on his main position, and paving the way for a decisive advance, and each successive advance deliberately prepared and systematically carried out," which "Combined Training" tells us, is the best type of offensive battle, it was, by the nature of things, impossible to undertake at manœuvres lasting altogether but four days. Hence, all attention was concentrated upon the things which are as real in manœuvre as in war—the practice of the generals and their staffs in strategical marches, in timely co-operation, and in the proper setting out of a battle. For the rank and file it is









not surely, as some of us would have it, that the Germans have not sufficient confidence in their conscript soldiers to extend them for attack, nor that the German is naturally wanting in individual elasticity and resourcefulness. Rather it is because the German Staff believe it sufficient in grand manœuvres to impress upon their men the two greatest of the precepts of war. The first is that Armies win battles mainly by their legs, that is, by high physical fitness and long marches; next, that when the actual firing begins, the old Zulu motto is the motto of victory: "If we go forward we die, if we go backward we die; better go forward and die." And that is why the band plays in a German attack.

Having thus defended the German system of attack, a system which, it is well to repeat, attains its most exaggerated form only on grand manœuvres, we may fairly turn to the other side of the picture. The fronts occupied by the rival corps that morning did not exceed six miles, and supposing each corps to have been at its full war strength of 120,000 men, that would mean 20,000 men to a mile, or close upon nine men to a yard, exclusive of the general reserve. If the attack succeeds, well and good; there will be plenty of men to secure the positions won. But a good illustration of the dangers to which such an attack would be submitted in the event of its failure was found in the condition of the XVIIIth Corps when struck by the vigorous and well-timed counter-attack of Blue. The whole corps rose *en masse*, and descended to the valley in the very densest formation. It is true that the retirement was, in a measure, covered by the guns of the general reserve on the further side of the valley; but these were too far off to inflict much harm upon the victorious enemy, and no attempt was made in the defeated columns to render mutual aid amongst themselves by retirement in alternate parties. The long line of infantry, six or seven men deep, simply rose and turned their backs to an appalling fire not 200 yards away, while whole regiments of artillery moved slowly down in column of route. True, the cavalry here and there sought opportunities for heroic self-immolation; but the fact remains that no formed bodies could ever have survived that terrible retreat. Retirement was, in fact, impossible; no salvation could be looked for on those crowded slopes. The failure of the attack would have resulted either in wholesale surrender or in utter rout; in any case the divisions most deeply involved would have lost for ever all semblance of fighting forces.

Moreover, it seems as if the German soldier were carefully trained never even to contemplate the possibility of defeat. Certainly he is no past-master in the gentle art of effecting a strategic movement to the rear, and he is not practised in retirement or retreat. This is well illustrated by what happened on the afternoon of the 13th. At 1.0 p.m., the VIIIth Corps, after an hour's rest, dictated to them by the balloon of the umpires' staff, resumed their advance. The XVIIIth Corps had already lost the heights to the east of Nastätten, and with their left flank thus turned, their resistance at Miehlen could not be prolonged. They accordingly withdrew as follows:—21st Division, Nastätten to Holzhausen; 28th Division, Miehlen, by Bettendorf, to Katzenelnbogen; 25th Division, Singhofen to Ebertshausen; Red cavalry division, Wallmenach to Laufenselden. To cover the retreat, the artillery of the retreating Army was kept in position till the very latest moment, and even beyond it. The 50th Regiment of Artillery, for instance, in an exposed position

on the slopes of the hill above Miehlen and in front of a wood, remained pounding away at the Red supports until the Red infantry emerged from the village 250 yards away and 50 feet below, and fired at them at this destructive range for fully five minutes before they even thought of going. And when they did go, it was not directly to the rear, through the numerous practicable tracks that lay through the wood, but in column of route along the edge of the wood across the front of the hostile infantry. The escort to these 36 guns was supplied by a single company of infantry, not 100 strong, and even this inadequate force made no attempt to reply to the Blue infantry until the guns had actually gone. It may possibly be urged that in reality the attacking Blues would have had no stomach for the pursuit, or that, if they had, they could never have advanced as they did over  $1\frac{1}{2}$  miles of open country in something less than an hour.

Nevertheless, the Blue cavalry breasted the hill, and took up the pursuit in the woods that lay to the right and left of this road with more dash than discretion. Few scouts, if any, were out, but regiments of cavalry, riding in squadron column, endeavoured on more than one occasion to charge the retreating Reds, packed as they were in column of route upon the roads. As for the Red force, despite the absence of artillery positions in so close a country as was that which they were traversing, their artillery, with the very smallest infantry escort, was rumbling on in the rear, with frequent halts and checks imposed upon it by the large masses of infantry moving in front upon the narrow, winding road. Except by the cavalry, who also moved in close formation, no attempt was made to protect the flanks or to move on a broad front through the by no means impenetrable woods. The retreating division had scarcely so much as thrown out a rear guard. It was all crowded together upon the one country road.

Consequently, when the Blue cavalry found an open space, unless they were met in counter-charge by the Red divisional cavalry, they were able to charge home upon infantry and artillery, which were jammed together beyond all possibility of resistance. Had the Blue cavalry used dismounted fire, which, curiously enough, they never once did, the surrender of the entire division could only have been a question of time. Whatever may be the merits of the German system of attack, the experiences of the afternoon showed that it would be impossible for an Army that attacked as the XVIIIth did to get away at all if defeated.

As the sun went down, the long columns of Red were winding up the hilly roads that led to their fresh positions at Katzenelnbogen and Dörsdorf, covering the passage of the Dörsbach valley, while close upon their heels rode the pursuing Blue cavalry, now at last working in patrols, to mark and report both the line of retreat and also the eventual rallying-point of their defeated enemy.

SEPTEMBER 14TH.

*Special Idea—Blue.*

This morning the VIIIth Army Corps will renew the offensive.

The Cavalry Division will leave Langschied at 7 a.m. and march, by Reckenroth, on Berghausen.

16th Infantry Division will leave Nieder-Meilengen at 6 a.m. and march on Laufenselden.

15th Infantry Division will leave Buch at 6.30 a.m. and march by Holzhausen, on Dörsdorf.

41st Infantry Division will leave Miehlen at 6 a.m. and march, by Bettendorf, on Ober-Fischbach.

*Special Idea—Red.*

The XVIIIth Army Corps will entrench and hold the line Ebertshausen-Klingelbach-Dörsdorf-Schnepfenkopf (E. of Dörsdorf).

*Official Narrative—Blue.*

The VIIIth Army Corps advanced according to orders, with the intention of attacking the left wing of the enemy established behind Dörsbach, between Eisighofen and Ebertshausen.

Before the attack of the 16th and 15th Infantry Divisions could make any impression, the 41st Infantry Division advanced from the woods to the east of Fischbach and the Wolfkopf against Dörsbach in the direction of Allendorf. Its attack anticipated the simultaneous offensive by the 28th and 25th Infantry Divisions of the XVIIIth Army Corps. The 41st Infantry Division, outflanked on the left, was driven back with heavy loss in the direction of Laufenselden. The enemy, pursuing in great force, pressing still further on its left flank, came into action with the 15th Infantry Division, advancing on the line Eisighofen-Dörsdorf, and drove it also back in a southerly direction. The 16th Infantry Division, which had taken possession of the heights to the south of Eisighofen, covered the retreat of the two beaten divisions over the Aar.

The 25th Infantry Division, which had been sent from Boppard to the VIIIth Army Corps, marching by way of Nastätten, arrived at Laufenselden and caused the enemy to give up the pursuit.

The VIIIth Army Corps remained on the right bank of the Aar, south of the line Bechtheim-Kettenbach, the 25th Infantry Division being at Reckenroth.

*Official Narrative—Red.*

The XVIIIth Army Corps awaited on the line Ebertshausen-Eisighofen the attack of the enemy. As soon as it was clear that their left wing was advancing by Berndroth on Berghausen, the Commanding General gave the order to his right wing to assume the offensive.

The 25th Infantry Division advanced from the Kahlberg north of Klingelbach, by Katzenelnbogen, in the direction of Ober-Fischbach. The 28th Infantry Division moved by Allendorf. The enemy's left wing was driven in a southerly direction. The division pressing forward, attacked the enemy's centre (15th Infantry Division), which was itself preparing to make an attack on the line Dörsdorf-Eisighofen, and drove it also back. In the meantime the 21st Infantry Division, holding the left flank, could only with difficulty



maintain itself against the turning attack of the enemy's right wing (16th Infantry Division), and lost the heights between Reckenroth and the Aar.

Fresh reinforcements for the enemy, which were reported to be on the march from Nastätten on Laufenselden, prevented the success won by the right wing from being turned to account, and enabled the defeated enemy to withdraw over the Aar.

A report from the Army Headquarter Staff about the advance of fresh forces of the enemy north of the Lahn caused the general in command to despatch a division in the direction of Hadamar, and with the 21st and 28th Infantry Divisions, as well as the 49th Brigade, to withdraw in order to cover the fords over the Lahn into the country south of Limburg.

### *Observations.*

The Blue Corps bivouacked upon the positions they had won; the Reds, after a march of 31 kilometres, reached their rallying point on the line Ebertshausen-Eisighofen, where they immediately proceeded to entrench. The position selected for entrenchment had a frontage of seven kilometres, but a cavalry screen was thrown cut from five to six kilometres to the front, covering 20 kilometres from the Lahn on the north to the outskirts of Schwalbach on the south.

The entrenched position itself was an exceedingly strong one. The guns and the general reserve were posted on the summit of a gradual and open slope, which for a mile and a half stretched down to the little Dörsbach below and the villages of Katzenelnbogen and Dörsdorf. The infantry constructed company trenches on the lower slopes of the hill. These were placed in lines at irregular intervals and altitudes, and seemed to vary in form and shape according to the conformation of the ground, the discretion of the company commander, or the time at his disposal. They were admirably concealed, and, being mainly constructed in potato fields and arable land, were quite invisible from below or from the wooded heights on the western side of the valley. To this invisibility an unusually wet night and a cheerless and misty dawn still further added. In advance of the general line the village of Katzenelnbogen was held by infantry, while on the south the cavalry division watched the country between the left of the position and the Aar. The line thus occupied was probably impregnable, except to an overwhelming force. Certainly it was so against the Blue Army Corps, with its almost exactly equal numbers. But it had one serious weakness, the weakness of the British position at Waterloo. Immediately behind it lay a thick woodland, traversed from west to east by a single first-class road, that which runs from Katzenelnbogen down to Zollhaus on the Aar below. What was more serious still, once the crest line was lost and the forest entered, the whole eastern slope fell by steep ravines and gullies 200 feet into the valley of the Aar. General von Eichhorn was thus standing with his back to an impassable gulf, and the loss of his last position must plunge him in irretrievable disaster. Behind the positions which he had held on the 13th on the Mühlbach the ground was generally in favour of the retreating force, but here it virtually made retreat impossible.

At 8.30 a.m. the 41st, the extreme left Division of the Blue Army, pressed forward on the line Berndroth-Berghausen, and seizing the high and largely wooded ground to the west of Katzenelnbogen, penetrated even into that village itself. General von Eichhorn's information led him to a correct interpretation of the enemy's intentions. On his left flank the 41st Division were to hold the enemy's right and occupy their attention, while the 15th and 16th and the cavalry divisions were to march by Laufenselden, and, forcing their way in between the Red left and the Aar, seize the Schnepfenkopf to the south-east of the general Red line, and roll it up from south to north. Unfortunately for the Blue commander, the 41st Division in its advance upon Katzenelnbogen had committed itself too far. Moreover, instead of appearing in front of the extreme right flank of the Reds, in reality it struck it upon their centre. The advance of the whole corps had been made upon too narrow a front, and while the Aar and the strong positions held by the Reds to the north of that river made an attempt to turn the left flank of the Reds, even with greatly superior numbers, doubtful in the extreme, on the Blue left the front of the XVIIIth Corps actually overlapped their advance. General von Eichhorn lost no time in taking advantage of his opportunities and turning the tables upon his enemy. Leaving one division only (the 21st) to hold the trenches on his left, he enveloped the advancing 41st Division with his 25th Division, and as the enemy staggered back under the blow, his central division (the 28th) left their trenches and dashed forward to complete the discomfiture of the Blue. Meanwhile the Red guns from their epaulements on the hill pounded at the discomfited Blues, thus driven in confusion obliquely across their front. The 41st (Blue) Division, staggering back across the line of their own advancing main body, carried the 15th with them in their ruin, and the Blue attack was thus frustrated before it had even begun. Thanks to the entrenchments, which had allowed him to hold his defensive line so lightly, and to develop two-thirds of his total force in offensive action; thanks also to the fact that, by entrenching, he had been able to take up a much more widely extended front than his enemy, but largely owing to the ill-timed impetuosity of the 41st (Blue) Division, General von Eichhorn was able himself to effect what his enemy had planned for him, and to roll up the attack from north to south, and thrust it back south of the Aar. A cautious general, on the British or Boer model, would have been content to await his enemy in the trenches, and would even so have beaten off the attack. Von Eichhorn, by his bold initiative, did more than repel his enemy; he inflicted a blow which would have utterly barred him from the possibility of further operations. At the same time, it may be said of him that in his own person he gave a notable demonstration of the "grand art of sitting still." During the whole of the operations he never left his table in rear of the main position, and directed the whole able development of his action, not from what he was able to see, for he could see nothing, but from the information carried to him from his divisional and brigade commanders over the telephone wires.

Tactically, too, the attack upon the Horst Wood, behind Katzenelnbogen, was a model battle. If the action of the 13th resembled Inkerman, that of the 14th recalled Wörth. As at Wörth, the



ground held by the enemy rose in terraces from the valley below, and the attacking force was thus able to utilise a quantity of dead ground in ascending the slopes. The attack was carried out in two very definite and distinct lines: a firing and a supporting line, and the advance of the first up the western was well covered by the fire of the second from the eastern side of the valley. The reserve, which came on in columns of companies in fours at varying intervals, was never employed in the attack, but on the capture of the position it passed through the first and second lines, and deployed to take up the pursuit. The entry of the 28th Division into the battle on the left of the victorious 25th was also admirably timed, and helped to repulse the cavalry charge, which was the last desperate endeavour of the Blue commander to obtain some respite for his shattered troops. Without the timely advance of the 28th Division this charge would undoubtedly have thrown the advance of the 25th into considerable confusion, and allowed the rally of the defeated Blues.

One important omission, however, could not escape the notice of the English officers who were witnesses of this most interesting engagement. The Red artillery had failed sufficiently early to realise the soundness of offensive action. Remaining in their epaulements at the top of the hill, they were too long content to play long bowls with the Blue artillery at three miles range, and it was not until the attack had been driven right home that a proportion of them limbered up to render more effective support to the infantry. Had the Blue artillery, in its turn, been handled with more dash and decision—above all, had it made any attempt, which it did not, towards the employment of indirect fire upon the assaulting infantry below—the Blue position might even at the eleventh hour have been retrieved. It is, of course, true that from a battery in motion there is no fire effect, and that a whole regiment on the move offers a dangerous target. For all that, it was a matter for surprise that, on this occasion at least, the artillery of both sides failed to practise the established German doctrine that an artillery which takes no risk in coming within decisive range, whether in attack or defence,, is an artillery which robs itself of half its terror.

At this point the Chief Umpire intervened. In order to realise the ordered plan for the final day (the 15th), the projected Blue advance was allowed to be resumed as originally planned. The Red right was withdrawn again to the trenches, and the flank attack of the Blue right, hurriedly and perfunctorily carried through in the late afternoon, was held, for the purposes of manœuvre, to have been successful. There were no lessons to be learned from this second battle, which was not intended to do more than prepare the situation for the following day. The whole advance was completed within an hour, and the XVIIIth Army Corps had accordingly to conduct a retreat under circumstances which were altogether unreal. As has already been stated, it would probably have been impossible for General von Eichhorn to withdraw at all. That he was ordered by the Directing Staff to do so, and in consequence found his whole army corps (less the cavalry division) upon a single road, was surely no fault of his. Like the Duke of Wellington, he had staked all upon a decisive victory, and he had won. The exaggerated scene upon the road down to the Aar did no more than illustrate the gravity of the risks which he had run in order to achieve that victory.



SEPTEMBER 15TH.

*Special Idea—Blue.*

The VIIIth Army Corps will advance this morning from the line Bechtheim-Panrod-Kettenbach-Eisighofen, and endeavour to seize the passages over the Lahn between Runkel and Diez.

*Special Idea—Red.*

At dawn this morning the XVIIIth Army Corps, in position between the Aar and the Wörsbach, will be prepared to deal with a hostile attack.

*Observations.*

On the afternoon of the 14th the XVIIIth Army Corps, in full retreat, crossed the Aar at Hahnstätten and Holzheim, and after a march of from 25 to 30 kilometres, reached their final positions on the south of Limburg, covering the passage of the Lahn. General von Eichhorn's centre was thrown across the great main road which leads from Wiesbaden, in the south, to Limburg, in the north, and the Mensfelder Kopf (altitude 300 feet), on the west, and the Nauheimer Kopf (altitude 250 feet), on the east, of that road formed the centre of his position. These two prominent *kopfs* command the whole of the plain to the south, and a line drawn through them from east to west forms the fourth side of a square, of which the Lahn, on the north, and its tributaries, the Aar, on the west, and the Wörsbach, on the east, form the remaining sides. With his flanks resting upon these two unfordable rivers, General von Eichhorn's position was again one of great strength. Meanwhile he had been deprived of his 25th Infantry Division, the heroes of the previous day, now added to the strength of the Blue side. During the evening of the 14th the VIIIth Corps, thus reinforced, had made a flank march across the Aar at Kettenbach, and, with their centre at Panrod, were to advance on the morning of the 15th in an endeavour once more to drive the XVIIIth Corps out of their positions and force the passage of the Lahn between Runkel and Diez.

The XVIIIth Corps reached their bivouacs at 11 p.m. and left them again to take up their positions on the Mensfelder and Nauheimer Kopfs at 3.30 a.m. They had thus been continuously marching and fighting for the past 96 hours, with little more than an average of three hours' sleep a day, 40 kilometres of marching daily, exclusive of fights, and but four decent meals during the whole period—on the evening of each day. Hot dinners had, during the whole course of the operations, been unavailable for everybody, more especially for those corps on outpost duty; but in the ensuing manoeuvres of the Guard, experiments are to be made to this end with field kitchen wagons on the Russian model. The men had carried a weight of 50 lbs. on their backs throughout, and 150 cartridges in their pouches, and had never once so much as taken off their massive Wellington boots; and the horses of the cavalry and artillery had been fed and watered only late at night and early in the morning. The exertions of the Blue side had been even greater. Yet, by 4 a.m., every regiment was on the march again as cheerily and eagerly as if they had just left barracks, while on the Red side a large proportion

of the force had been up all night at entrenching work. The German Staff place all their confidence in the wonderful endurance and marching powers of their infantry, and anyone who witnessed the unwearied steady swing from the hips which had carried them along over those four long days must agree that this confidence is not misplaced. There appeared to be but few footsore or exhausted men during the whole period, and what ambulances there were were absolutely empty. The columns of fours were at all times, and even in manœuvre over open country, marvellously well locked up, and in the attack they always seem to arrive at a given point two or three minutes before the spectators from the English Army had calculated that it was possible for them to get there. This is the true sign of marching discipline and training; and indeed the legs of the German infantry, and their cheerful endurance in all circumstances, are nothing short of marvellous. The Staff work, too, on the Red side, was highly creditable to the organisation of the German Army. Smooth working under considerable stress, entire absence of confusion, the direction, not the leading, of their men, these will, in short, be the characteristics of the Staff work in the XVIIIth Corps. In the VIIIth Corps the same perfection had not been attained, and General von Deines himself set a bad example by trying to do the work of a sergeant-major, and attempting personally to lead every part of his force at the same time, and even in the firing line, with the result that when wanted by his subordinates he could scarcely ever be found. This general is apparently one of the few in the German Army who have not won promotion in the ordinary way. As tutor to two of the Imperial Princes, he has become a *persona grata* with the Emperor; but it is more than doubtful whether he will long continue as an army corps commander. Nevertheless, the exception proves the rule, and in its splendid infantry and its practised Staff the German Army possesses two of the most formidable of the engines of war.

The fighting on the 15th was once more a victory for the XVIIIth Corps and its able commander. Once more the Blue Army showed unmistakable signs of faulty tactical leading. Von Deines, advancing from the south, ordered three divisions to make a frontal attack, while the 16th Infantry and his Blue cavalry divisions were to turn the left of the Red position. In the intensely foggy morning the turning movement would have had every chance of success against a less able commander than von Eichhorn. Splendidly served by his cavalry patrols (in real war it is doubtful whether they would succeed in obtaining quite so much information), von Eichhorn was again aware of the turning movement before it began to take shape. He answered it, as all turning movements should be answered, by further extending the 21st Division on his left, with the consequence that the flank attack of the Blues was converted into a frontal attack. An attempt on von Deines' part to persist in his flanking movement by utilising his cavalry division only served to expose them to a destructive close-range infantry fire, to which the brigaded Maxims of the Red cavalry division gave effectual support, and the discomfited Blue cavalry gave way before the counter-charge of the Baden and Bavarian Dragoons. It is possible that von Deines might have achieved something had his cavalry divisions used dismounted fire, but the German cavalry, in grand battle at least, is taught to trust only to the *arme blanche*.



The only resource now left open to the attacking Blues was to take advantage of the widely extended defences of the enemy, and, in Napoleonic fashion, to throw the whole of their remaining three divisions into a vigorous assault upon the centre. But this movement, if attempted at all, was but feebly supported by the Blue artillery. Occupying a front of two miles, they could have made scarcely any impression upon the snug entrenchments of the Red force, whilst the Red artillery, enjoying the advantage of being already in position before the Blues deployed for attack, were able to concentrate a destructive fire upon each battery as it came up. At 11 a.m. the "cease fire" was signalled, and the Kaiser-Manöver of 1905 came to an end, but not before General von Eichhorn had commenced to set things in order for a vigorous offensive, and thus once more demonstrated his just perception of how to combine a strategical defensive with a bold and timely tactical offensive.

In the *Kritik* which followed, the Kaiser paid well-merited tribute to the marching powers of the infantry and the efficiency of the A.S.C. services; also to the valuable aid rendered by the motor Volunteers. Whether he was as satisfied with the VIIIth Corps as a "frontier" corps as he had been before the manœuvres commenced, did not appear. The verdict on this subject will be left to the consideration of the Great General and Umpire Staff during the autumn. But it is at least certain that many officers, senior and junior, in both corps will owe their accelerated promotion or their enforced retirement from the Army to the confidential reports of the umpires upon their capacity for leading men in the field. This custom of using conduct upon manœuvres as a test of efficiency in war is one which we might well follow more nearly in the British Army.

The despatch of two army corps to quarters in one afternoon is no light matter. Nevertheless, the entrainment of the infantry at the railway stations in the Lahn valley began at 2.0 p.m., and was finished by midnight, while the artillery and mounted troops were, by 4 p.m., well on their way homeward by route march. This alone is an achievement which bears striking testimony to the war-readiness of the Kaiser's Army.

It is possible that the weak spot in that Army is to be found in its systematised discouragement of individual initiative, especially in the infantry. Even the brigade commanders are allowed no scope. The Germans are not an original people; their strength lies in scientific and well-reasoned progression from data which are clearly established. The high standard of professional skill and the scientific and methodical knowledge of the Staff is a point in favour of the German Army; but the effectiveness of this genius is to strangle the initiative and resourcefulness of the individual, and to reduce him to the level of a perfectly-drilled but unreasoning automaton. The abler and the more self-sufficient the members of the Staff, the less capable do the subordinate commanders become for dealing on their own responsibility with any unforeseen emergency, for which no guiding regulations are laid down in his text-books. With the regimental and company officers the result is most striking, and there is no question that the company officers of the German Army cannot compare with our own. Questioning one of them, a captain of some forty years of age, we could get no opinion out of him either on the day's operations or on more general military subjects. Although he



was perfectly courteous—indeed, the courtesy shown to all and sundry by officers of every rank was most remarkable—“*Das weiss ich nicht*” was all that we could extract from him on any question. It may well be doubted whether a system which is calculated for success, but does not apparently contemplate the possibility of failure, and which of set purpose destroys the initiative of the individual—officer or man—might not, in the face of heavy loss, or even of disaster, break down after the silencing of the directing voice. In victory the German Army would be supreme as a machine. So, indeed was the Frederician Army. But in disaster the Frederician system, which still, in a measure, holds the field, might repeat, and for the same cause, the great disaster which no Prussian can ever forget.

A scene at a little railway station well illustrates this point. There a system, well ordered enough for ordinary days, degenerated into a scene of indescribable confusion, under the rush of some hundreds of returning spectators—whose coming should have been, but was not, foreseen. Are not the same disasters foreshadowed in an Army which concentrates all its powers in the directing hands of a small body of highly-trained but only mortal men?

The rank and file, on the other hand, at least in this part of Germany, are by no means so ground down to a dead level of soulless uniformity as one might suppose. Nor do they live so entirely in fear of the sergeant-major. Speaking generally, the men and non-commissioned officers of each battalion seemed members of a happy confraternity, bearing with imperturbable good humour the many and great discomforts of the Service, and treating each other, not as pawns, but as men and brothers. And where *landsmann* or native of any particular district met *landsmann*, distinctions of rank were almost forgotten. The hard and fast line supposed to be drawn between officer and man is, no doubt, largely broken down by the presence of the *einjähriger*, or conscript gentleman, in the ranks. But what makes for cordiality and good feeling even more is, first, the sense of a common patriotism, and, next, the implied and well-placed confidence that the whole Army reposes in its leaders.

One cannot have been present at manœuvres such as these which have been described without being immensely impressed. Perhaps one is struck most of all by the entire absence of anything like paper. The corps are real corps, the men real men of flesh and blood, and of high physique; there are no “specials” and no unfledged boys to be weeded out on the declaration of war. The equipment, too, is all there. So are the guns; so, too, are the Staff and transport. Nothing is left to be hurriedly extemporised at the eleventh hour. It is true that the VIIIth and XVIIIth Corps only stood at these manœuvres at little over half their war strength, though some of the regiments had called out a proportion of their Reserve. But even as they stood then they would be ready to cross the frontier next week, and two army corps, nearly 60,000 strong each, are formidable enough. In short, the German Army, even that part of it which is under training with the colours to-day, is all “striking force.” The “squeezed lemon” does not exist.

The organisation of supply and transport is naturally not identical in peace manœuvres and in war. For instance, the supply depôts for the retreating Red Army had been placed beforehand in rear of the successive positions to be occupied, though the Blue depôts seem to have been moved up in rear of the advance. But the

problem of feeding a great Army in the field remains the same in peace as in war, and in war would even be simplified by the possibility of requisition and by the prior lien upon the railways for military to the exclusion of all other traffic. In praising the organisation of the Army Service Corps and Transport under General Gallwitz, the Kaiser put his finger upon one of the strongest points in the German military system, and one of the most essential to victory in the field.

Lastly, the most impressive reflection of all is that which forces itself upon one at the mere aspect of regiment upon regiment of splendid vigorous youth. Germany gives to her Army the best of all her young manhood — reaching in education and training, physical, moral, and mental, to an astoundingly high level. Not all her population are privileged to take up arms for the country. A considerable selection is made, and the unfit are rigidly eliminated. The only thing that the modern German Army requires to make it a perfect engine of war is a little actual war experience. When that war experience comes, losses will certainly be inflicted upon the dense formations and barrack-square precision of their system of attack, which will be so appalling as to excuse all the anticipations of the German Staff and utterly destroy all their tactical conceptions. It will thus remain to be seen whether a machine which has been built up upon a calculated method of the utmost rigidity will be able to adapt itself to the altered situation, or whether, thrown hopelessly out of gear, it will only serve to precipitate the destruction of an Army all ranks of which have been taught to regard themselves as unthinking fly-wheels in a great and perfect engine, but never to rely upon their own individual powers of initiative, improvisation, and resourcefulness.

# THE TACTICAL EMPLOYMENT OF PACK ARTILLERY.

*By Major K. K. KNAPP, R.G.A.*

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THE term "pack artillery" is used advisedly instead of "mountain artillery," as the latter is to some extent responsible for the prevailing idea that mountain batteries are only useful for hill-fighting or operations in a mountainous country. That this idea is erroneous has been amply demonstrated by the Japanese in the late war, and so fully do they recognise the value of this branch of the artillery that they maintain a proportion of one mountain battery to two batteries of field artillery, and are even said to be contemplating an increase, as the result of their late experiences. Unfortunately, the lesson was not learnt at home in time to prevent the recent abolition of the mountain artillery units, which existed out of India, and the absence of all mention of this nature of artillery in the latest edition of "Combined Training" lends force to the doubt, whether the lesson has even now been fully appreciated.

It would be unsound to advocate the use of mountain guns in places where wheeled artillery can be equally well employed; but there must undoubtedly be many occasions even in European warfare when pack artillery would be of value on account of its great mobility. Batteries of guns carried on pack animals can practically go anywhere that an infantryman can go without using his hands; they can easily negotiate hills, woods, broken or close country, which would be difficult, if not impassable, to wheeled artillery, unless roads exist or passages have been previously prepared.

In the matter of concealment, too, these batteries have an advantage, for with pack animals, cover can be obtained from hedge-rows, undulations of ground, thin scrub, etc., which will conceal a man standing upright, and so, in country in which such cover exists, batteries of mountain guns may often reach effective ranges without detection, where wheeled artillery could not conceal its movement.

2. Pack artillery is therefore peculiarly suited to work with infantry, and it is as the immediate auxiliary of that arm that its employment is advocated. In order to fulfil this rôle effectively, a mountain battery should form an integral part of each infantry brigade in action. Moving with the brigade reserves, these batteries would always be at hand to give the infantry close support, not only in the final stages of the engagement but throughout the fighting, and so timely assistance would be ensured to that arm whenever they require it. In short, batteries of pack artillery should be to infantry brigades what horse artillery batteries are to brigades of cavalry.



Only under exceptional circumstances, when some advantage is to be gained thereby, should these batteries be brigaded together in action, as, for instance, in turning movements when no other artillery is present and hostile artillery is likely to be met with, or during an attack, when the capture of commanding ground, such as the key of a position, necessitates the concentration of these batteries, either to assist the infantry in retaining possession of the hill, or to derive full benefit from the advantage gained by bringing as much artillery fire as possible to bear on the enemy's defences from this commanding position.

3. The tactical uses for which pack artillery is required as the immediate auxiliary of infantry are as follows:—

*a. Close Support of the Infantry during the Attack.*

"Combined Training, 1905" (p. 118 §6), says:—

*"It should be borne in mind that the greater the difficulties of the infantry, the closer should be the support of the artillery. This may necessitate some of the artillery being pushed forward to decisive ranges during the final stages of the engagement."*

And on p. 117 it is laid down that:—

*"Subsequently, at the critical moment prior to an assault, when an overwhelming force is required, it (horse artillery) may be pushed forward to decisive ranges often on the flanks of the firing line to render it the closest support."*

Now, the exact moment when this very close support will be required cannot be foreseen, for the time and direction of the enemy's counter-attack will probably come in the nature of a surprise, and it is then that the attacking infantry will most require immediate assistance. But in the field army as at present constituted, the infantry is dependent on batteries of horse or field artillery for their support, and it must often happen in broken or close country that wheeled artillery is unable to advance to decisive ranges, or can only do so by making a long detour on account of the difficult nature of the intervening ground. In either case the necessary support for the infantry may not be forthcoming at the critical moment, and the want of it may lead to their repulse and consequent failure of the attack.

If, however, batteries of pack artillery form an integral part of infantry brigades, and accompany them as suggested, close support will be provided throughout the attack, and these batteries would be at hand not only to assist in repelling counter-attacks, but also to confirm the advantage if an assault prove successful. This applies with particular force to a successful assault on the key of a position, which is, as a rule, commanding ground, or hill inaccessible to wheeled artillery.

Mountain batteries could be brought into action on it and assist in the development of effective enfilade or reverse fire against other parts of the enemy's position. The effect of combined artillery and infantry fire from this commanding ground would contribute far more than the unaided fire of infantry towards preparing the way for the final assault. Moreover, the enemy would not be likely

to let the key of their position pass out of their hands without making heroic efforts to recover it, and the support of guns in action there would greatly assist the infantry of the attacking force to retain possession of the captured ground.

*b. In the Defence of Woods.*

Woods often form important features in a line of attack or defence, as, for instance, in the battles of the campaign of Metz in 1870, and the defence of a wood may be greatly strengthened by the presence of artillery; without guns carried on pack animals, no artillery can be used, unless roads exist or there is time to clear passages for wheeled traffic. If batteries of pack artillery accompany infantry brigades, guns would be immediately available to assist in the defence of woods captured in the course of the fighting.

*c. In Turning Movements in Broken or Hilly Country*

wheeled artillery cannot, as a rule, be used, and batteries of pack artillery are indispensable, as the Russians learnt to their cost in the late war.

On occasion, when a division or more of the Army is employed in a turning movement, and no other nature of artillery accompanies the force, it will generally be advantageous to work the batteries of pack artillery in brigades, especially if hostile guns are likely to be met with. This applies also to cases when the turning force consists of a mixed brigade only and more than one battery is sent with it.

*d. In Temporary Forward Positions by the Defence.*

In reference to this, "Combined Training, 1905" (p. 126), says:—

*"On suitable ground, artillery may often be advantageously employed for this purpose."*

If batteries of guns carried on pack animals form part of the force acting on the defensive, the use of artillery in this case would not be limited to the same extent, as it is when wheeled artillery only is available, and the defence could so take greater advantage of forward positions commanding the ground over which the enemy will probably advance.

*e. In the Counter-Attack by the Defence.*

"Combined Training, 1905" (p. 131 §1), says:—

*"It will generally be advantageous moreover from the point of 'moral' if some portion of the artillery accompanies the infantry and comes into action at decisive ranges."*

Here the use of artillery as the immediate auxiliary of infantry is definitely enjoined, and the reasons advanced in favour of the employment of pack artillery for this purpose in the attack apply generally to the counter-attack also.

The commander of a force acting on the defensive, who has at his disposal batteries of guns carried on pack animals in addition to horse and field artillery, will have far greater latitude in his choice of ground for the counter-attack than the commander of a force in which only wheeled artillery is available.

4. In the bombardment of a position, batteries of pack artillery will be best employed in shelling the enemy's infantry, while the field and heavy guns engage the hostile artillery; but if it is necessary that these batteries should co-operate in the endeavour to silence the enemy's guns, then they can do so with most effect when employed as the immediate auxiliary of the attacking infantry. For it is one of the results of the introduction of smokeless powder and Q.F. equipments that a force acting on the defensive has now the power of refusing to disclose its position until compelled to do so by the approach of the attacking infantry within effective range.

"Combined Training, 1905" (p. 119, sec. 120), reads as follows:—

*"It will be the first task of the infantry to push forward a firing line of sufficient strength to draw the fire of the defence, and thus find a target for the artillery; for the defenders, unless thus threatened, will be careful not to expose themselves, and consequently the attacking artillery will produce no effect."*

In the future, therefore, it will generally happen that the bulk of the artillery on both sides is not employed, till the infantry has advanced to effective range and so forced the enemy to disclose his position. The batteries of pack artillery, which accompany the infantry brigade reserves, will by then be in action at effective ranges, and the bombardment of the enemy's infantry can be carried out by them simultaneously with the bombardment of the hostile guns by the field and heavy artillery.

If, however, it prove necessary for the attacking force to employ all available guns in engaging the hostile artillery, the batteries of pack artillery, being in action at effective range, can lend material assistance to the field and heavy guns, notwithstanding a comparative weakness of shell power. They may also from their forward position get opportunities of enfilading portions of the enemy's artillery, and the actual and moral effect of their fire will so be greatly enhanced. As soon as a decided superiority is established over the hostile guns, the fire of the batteries of pack artillery should be turned on to the enemy's infantry positions, so as to complete as expeditiously as possible the preparation for the assault.

When the bombardment of the enemy's infantry positions becomes the special work of batteries, which move in close support of the infantry brigades, fear of the attack being launched against the enemy's position before the hostile infantry has been subjected to the demoralising effect of shell-fire will be minimised. This has been a common mistake in the past, which has many times led to failure of the attack, as for instance at the battle of Gettysburg in 1863. If the fight opens with an artillery duel, the batteries of pack artillery will be best employed in the same manner, for the infantry will push forward to effective range under cover of the fire of the field and heavy guns, and these batteries should accompany them and not take part in the bombardment, till they can come into action at effective range.

5. Even though no mountain batteries are maintained out of India, some mention of the tactical employment of mountain artillery should be included in "Combined Training," for it is the official text-



book used by the Army in India. On p. 117 of that book are specified various natures of artillery, which are used in the field, and the respective *rôle* of each, and to these should be added the following definition of mountain artillery:—

“Mountain artillery is the weakest in shell power, but the most mobile form of artillery. It is peculiarly suited for operations in close, broken, or hilly country, and as it can move over the same ground as the infantry, is best employed as the immediate auxiliary of that arm.”

The expression “most mobile form of artillery” is used, as mobility means power of movement rather than speed of movement, and a nature of artillery that can move over almost any kind of country is therefore more mobile than faster moving natures, which are confined to movement over ground suitable for wheeled traffic.

The definition of “horse artillery” should be altered, so as to read:—

“Horse artillery is weaker in shell power than field artillery, but more mobile; it is therefore best employed with mounted troops in advance or on the flanks, etc.”

The rest of the paragraph might be omitted when mountain batteries are added to field armies and allotted to infantry brigades during an action.

6. The tactical employment of pack artillery, as the immediate auxiliary of infantry necessitates the addition of mountain batteries to the field army in the proportion of one battery to each brigade of infantry, *i.e.*, at the rate of one brigade of three batteries per division. This proportion can, however, be reduced in an army corps of three divisions by placing these brigades in the corps artillery, for one of the three divisions is always kept as a reserve to the other two, and two brigades would therefore suffice to give one to each of the leading divisions during operations.

The force of artillery now allotted to an army corps of three divisions consists of:—

	Guns.
2 brigades of field artillery in each division - -	108
1    ,,                   ,,           (howitzers) in corps artillery	18
1    ,,           horse artillery                   ,,   ,,	12
1    ,,           heavy   ,,                       ,,   ,,	12
	—
	150

The proportion of guns is thus about 6 per thousand rifles, and two brigades of pack artillery can only be added if an equivalent amount of field artillery is withdrawn; this will necessitate a redistribution of the remaining four brigades as follows:—

	Guns.
1 brigade of field artillery in each division - -	54
1    ,,                   ,,           in corps artillery - -	18

With the addition of batteries of pack artillery the necessity for the brigade of horse artillery will cease to exist, and a second brigade

of heavy artillery may with advantage be substituted for it. The artillery in each army corps will then consist of:—

	Guns.
1 brigade of field artillery with each division - -	54
1 „ „ in corps artillery - -	18
1 „ „ (howitzers) „ - -	18
2 „ mountain artillery, in corps artillery, but allotted to two leading divisions -	36
2 „ heavy artillery in corps artillery - -	24
	—
	150

Each of the leading divisions will then have one brigade of field and one brigade of mountain artillery, and as the corps commander has at his disposal the brigade of field artillery with the third or reserve division in addition to the one in the corps artillery, he will have a reserve of two brigades of field artillery, with which he can at any time increase the divisional artillery of each of the two leading divisions by a second brigade, and it will be convenient, if the brigade of field artillery with the corps artillery be generally placed with the third or reserve division.

The usual distribution of the artillery with an army corps on the march during operations would thus be:—

1 brigade of field artillery	} with each of the two leading divisions.
1 „ of mountain artillery	
2 „ of field artillery, with the third or reserve division.	
1 „ „ „ (howitzers)	} with corps artillery.
2 „ of heavy artillery	

The addition of the second brigade of heavy artillery provides the corps commander with sufficient to reinforce the artillery of each of the leading divisions with a brigade of this nature when necessary, and so compensates for the loss of shell power, consequent on substituting 2 brigades of mountain for 2 brigades of field artillery.

If the brigade of horse artillery is withdrawn from the artillery of an army corps, it is a matter for consideration whether it would not be advisable to add a second brigade to the strength of a division of cavalry. At present the divisional artillery is obtained by taking the horse artillery batteries from the brigades of cavalry; but as the cavalry will generally be working independently ahead of the Army, it would seem wise to leave these batteries with the cavalry brigades, and give the division commander an additional brigade of horse artillery as his divisional artillery. This would form a reserve, the need for which may easily arise. As a cavalry division consists of 4,000 fighting men, two brigades or 24 guns would give a proportion of 6 guns per thousand men, instead of 3, the existing proportion, which, under modern conditions, seems insufficient for a mounted force, which must often be independent of other immediate support.

7. Under the above proposals it would be necessary to maintain two brigades of pack artillery with the Home Army for the force held ready at Aldershot; at present there is not a single mountain battery available, as those which existed have lately been disbanded.

In India a greater proportion of mountain artillery would be required with an Army engaged in a big campaign across the north-west frontier, for some portions of the theatre of war are far more

suitable for the employment of mountain artillery than of field, and an Army operating there would require more of the former nature of artillery than the latter.

Take for instance the country north of Kabul, through which invading armies have so often found their way to India in the past; the route which these armies followed runs from Mazar-i-Sharif *viâ* Haikab, and the passes through the Hindu Kush, north-west of Bamian to Kabul, and thence *viâ* the Laghman and Kunar valleys through the hills north of Peshawur to India. Operations in that part of Afghanistan would offer little opportunity for the employment of field artillery, and to oppose the advance of a hostile army mountain artillery would have to be extensively used. In order, then, that sufficient of this nature of artillery may be available for the extra requirements in certain parts of the theatre of war, where the Army of India may have to fight, it is advisable to maintain a brigade of mountain artillery for each of the nine divisions of that Army. Twenty-seven batteries would thus be required, in addition to about six that are needed for internal defence, or a total of thirty-three batteries. At present the amount of mountain artillery in India falls far short of this, for there are altogether eighteen batteries, of which only eight are British.

The provision of a sufficiency of mountain artillery, both at home and in India, seems therefore a matter for urgent consideration. Other great Powers have already turned their attention to this, and it is probable that Russia, after her recent experiences, will take immediate steps to provide a large and efficient force of mountain artillery, so that her armies may be adequately supplied with this nature of artillery when she proceeds to develop her plans for an advance on India, which have been maturing for years.



## A GERMAN COLONIAL CAMPAIGN.

THE OPERATIONS AGAINST THE BONDELSZWARTS AND  
HEREROS FROM THE BEGINNING OF OCTOBER, 1903,  
TO 31ST JULY, 1905.

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*Compiled by the 2nd Bureau of the French General Staff.*

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Translated, by permission of the French Minister of War, from the  
*Revue Militaire des Armées Etrangères.*

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*Continued from January JOURNAL, p. 97.*

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THE choice of the Emperor fell on General von Trotha, who received the exclusive control of all the operations in South-West Africa, Colonel Leutwein being responsible for the civil administration of the Colony only.

It was decided to substitute for the heterogeneous elements, which had up to the present maintained the campaign, a homogeneous and properly officered Expeditionary Corps, provided with all the necessary auxiliary services.

This Expeditionary Corps consisted of:—

- a. The *état-major* of the general commanding the troops, that is, the six officers of the staff; an escort; a detachment of optical signallers; a detachment of wireless telegraphists; a commissariat unit; a medical unit; a Provost-Marshall's department; and some chaplains.
- b. A mixed brigade of two regiments of mounted infantry;<sup>1</sup> two groups of horse artillery,<sup>2</sup> and two detachments of machine guns.

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<sup>1</sup> The 1st Regiment (3 battalions, of which two had 4 companies, and one 3) was constituted out of the units in the Colony at the end of April, exclusive of the Marine battalion, of which two companies, owing to typhus fever, were in quarantine at Otjihaënenä, and the other two on *etappen* service.

The 2nd Regiment (provisionally 8 companies strong; two battalions of 3 companies, and one of 2) formed out of the old 3rd Company of the Protectorate troops, and 7 new companies.

<sup>2</sup> The 1st group comprised 5 batteries (one a mountain battery); the 2nd group, 2 batteries (provisional).

- c. Some Dépôt units (2 companies *per* infantry regiment, 1 battery *per* group).
- d. An *etappen* service, consisting of *etappen* troops (provisionally the 2nd and 3rd Companies of the Marine battalion); a field-telegraph detachment; a commissariat service, with field bakeries; a Detachment<sup>1</sup> of five supply columns; station hospitals,<sup>2</sup> and different dépôts (artillery, clothing, and equipment, medical, remounts, etc.).

"It is not tactical considerations," writes General von Francois, "which are responsible for this distribution of regiments. The three or four battalions of the same corps will be the most part of the time broken up and distributed over such an extent of country that they will never take a combined part in the same action. The commander of the regiment will have far more the work of an inspector than of the head of a corps, and he will be a valuable intermediary for the Commander-in-Chief. The troops must be organised so that they can easily be grouped together, small detachments having each at its disposal the necessary resources for enabling them to act independently for a long time, whether in a stationary camp or on the march. The *personnel* of each unit must then include work-people, who can mend clothes, and arms and equipments, masons, gardeners, smiths, wheelwrights, bakers, etc.; each isolated detachment, however small it may be, ought to have its medical *personnel*, and must be provided with heliographs and signallers, if it is to co-operate with other detachments."

The mounted company comprises 6 officers, 1 doctor, 1 veterinary surgeon, 25 non-commissioned officers, 152 men, 8 wagons,<sup>3</sup> 30 native drivers. It is the tactical unit *par excellence*; its effective being sufficiently small to enable it, in the central part of the Colony, to carry out the most part of its itineraries without having to fear a want of water; it is sufficiently strong, on the other hand, if reinforced by an artillery section, to allow of its being detached without danger of being annihilated.

The battery consists of four guns, and has 5 officers, 20 non-commissioned officers, 113 men, 100 mules, 123 horses, 4 ox-wagons, 15 natives, and 80 oxen. Each gun is drawn by from 6 to 10 horses

<sup>1</sup> The Detachment of 5 supply columns (*Proviant Kolonnen-Abtheilung*) has an effective of 831 officers, non-commissioned officers and men. Owing to growing needs, and to the troops being at a distance from the railway, the number of these Detachments was successively raised to three; two Detachments of Auxiliary Convoys are to be organised later on.

<sup>2</sup> Independently of the station hospitals installed in ships or in huts, the medical service comprised some field-hospitals (2 tents, 30 beds, *matériel* and medical stores) which worked in the immediate vicinity of the troops.

<sup>3</sup> The ox-wagons, drawn by from 18 to 20 oxen, carries at least 2,000 kilos. (4,408 lbs.). In order to determine approximately the number of wagons which ought to follow a troop we may reckon one wagon for 25 men.

or mules. The foremost team consists generally of two horses, the hinder ones of mules.<sup>1</sup> The men are armed with the carbine.<sup>2</sup>

The battery is organised in such a way that each of the sections is self-sufficing, whether in stationary camps, on the march, or in action. In South-West Africa, as a matter of fact, the method of employing artillery in sections is common, sometimes because it is wanted to reinforce a detachment by a single section, sometimes because the difficulties of the country or the extent of the enemy's front render it necessary to break up the battery. This dispersion is, moreover, without danger, so long as the Hereros do not possess artillery. The machine-gun detachment is composed of 6 machine-guns.

At the beginning of May, Colonel Leutwein had at his disposal as a field force, 11 companies, 6 batteries, a detachment of machine guns, with a half-company of Witbois and Bastards. A part of these effectives (4 companies, 1 field battery, 1 mountain battery, and a half-company of natives) was at Otjosasu under the orders of Major von Estorff; the remainder were *échelonné* along the railway. The degree of preparation of these units was also very different; whilst the ones, which had already taken part in the operations of the preceding month, had only to complete their effectives and supplies, the others, formed with the 2nd Contingent of Volunteers, had to organise right through. All the difficulties which had been encountered during the preceding month of March, in constituting the Principal Detachment at Okahandja, now repeated themselves anew. It was not until thirty-eight days after their landing that the 2nd Contingent of Volunteers was in a position to participate in the operations.

Colonel Leutwein, on the other hand, had not waited for this date before setting in motion the first of his units which were ready; on the 4th May the von Estorff detachment had been moved eastwards towards Okamatangara, and on the 9th Lieutenant von Zülow had received orders to move with 1 company, 2 guns, and 4 machine guns, by Outjo on Grootfontein, which had been held by Lieutenant Volkmann with about 25 men since the commencement of the insurrection. Numerous reports had shown, as a matter of fact, that the Hereros were abandoning little by little the region which they had so vigorously disputed with the Germans on the 13th March, 3rd, 9th, and 13th of the preceding April, and were concentrating in force in the neighbourhood of the Waterberg. Colonel Leutwein had formed a plan for attacking them on three sides at once, from the South-East, South-West, and the North. The despatch of troops to Okamatangara and Grootfontein had for its object the placing of detachments to the South-East and the North.

In consequence of the difficulties due to want of water, in provisioning, the bad state of the horses, and finally the ravages caused by typhus, Major von Estorff took 19 days to cover the 160 kilometres (100 miles) between Otjosasu and Okamatangara; after waiting some days at this last point, he resumed his march on Okonondusu, which he reached on the 8th June. He had had no fighting of any

<sup>1</sup> This seems to be the best way of utilising the means at disposal, the horse being more manageable, and the mules hardier and more capable of standing fatigue.

<sup>2</sup> At home the gunners are armed with revolvers.



importance, but fever and typhus had deprived him in a month of the tenth part of his effectives.

On the 8th June, Colonel Leutwein was at last able to concentrate at Otjosasu a detachment of 4 companies, 3 batteries, 80 Witboïs, 46 ox-wagons, ready to advance in the Owikokorero-Otjire direction. The Witboïs struck their camp first, and moved by Otjire and Erindi-Otjikurare on the Omuramba-u-Omatako Valley, where they effected a junction on the 19th June with Major von Estorff. The other units followed by *échelons* from the 8th to the 11th June. The necessity for the first *échelons* having to arrange the halting places with due regard to the water supplies on the route to be followed by the main body—which comprised 2 companies, 2 batteries and the greater part of the wagons—and the inexperience of the men, with the imperfect training of the draught animals, rendered the march particularly slow and laborious; it took 10 days to cover the 65 kilometres (40½ miles) between Otjosasu and Owikokorero, and it was only on the 18th that the last units of the column reached this water point, where they received orders to halt.

General von Trotha, who arrived in the Colony on the 11th, and took over the direction of the operations, now provisionally suspended the movement on the Waterberg; while Colonel Leutwein, relieved of his command, returned to Windhoek.

The new Commander-in-Chief did not abandon the plan of his predecessor, but he considerably modified the measures taken for its execution. Believing that the converging action of three detachments on a woody country with a circumference of 150 kilometres (94 miles) would not prevent the Hereros from escaping, where, when and how they pleased, he judged it better to have more numerous, if less strong, detachments; the effective strength, however, of each of these was sufficient to allow of their driving back into the interior of the circle of investment any body of the enemy which might attempt to break out. The experience of the preceding months had shown that three to four mounted companies, supported by artillery and machine guns, constituted a fighting unit at once strong and handy, and equal to any duty. The first care of General von Trotha then was to form, with the Estorff column, the principal column, and with the companies left at Okahandja, three detachments of approximately equal strength, comprising the first (von Estorff), 3 companies, 1 battery,<sup>1</sup> a detachment of machine guns, and a half-company of Bastards; the second (von der Heyde), 3 companies and 2 batteries;<sup>2</sup> the third (von Glasenapp), 3 companies, 2 batteries,<sup>3</sup> a detachment of machine guns, and a half-company of Witboïs. With

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<sup>1</sup> The 1st, 2nd, and 4th Companies of the 1st Regiment, the 3rd Battery, the Saurma detachment of machine guns; a total of 26 officers, 247 rifles, 4 guns, and 4 machine guns.

<sup>2</sup> The 5th, 6th, and 7th Companies of the 1st Regiment, the 4th Battery, and 2nd Mountain Battery; in all, 22 officers, 164 rifles, and 8 guns.

<sup>3</sup> The 9th, 10th, and 11th Companies of the 1st Regiment, the 5th and 6th Batteries, the Dürr detachment of machine guns; in all, 20 officers, 219 rifles, 8 guns, and machine guns.

the 8th Company at Omaruru, and the detachment Volkmann,<sup>1</sup> which was sent to Grootfontein by Otawi, these were all the forces he could dispose of for the present. Finding these forces insufficient, General von Trotha resolved to await the arrival of the 2nd Regiment before taking the offensive.

In the last days of June, the situation was as follows:—The detachment von Estorff at Osombu-Karupuka, the detachment von der Heyde at Okosondusu, the detachment von Glasenapp at Otjire. The *etappen* line Otjosasu-Onjatu was held by the 2nd Company of the Marine battalion; that of Karibib-Outjo by the 3rd Company of the same battalion. The two other Marine companies were in quarantine at Otjihaëna. Captain Franke, with a company and two guns, policed the Omaruru district, still incompletely pacified. Garrisons of various strength (12 to 150 men) occupied important localities. The railway-guards (posts of 4 to 10 men) were distributed along the line from Swakopmund to Windhoek, and with them some 200 men of the railway troops, whose duty was to help in the working and repairs of the lines. The construction of the line from Swakopmund to Otawi, was, at the same time, being actively pushed on; towards the end of July, the rails had been laid for the first 30 kilometres (19 miles).

A careful examination of the situation showed General von Trotha that the reinforcements expected in the early days of July would not raise the Expeditionary Corps to a strength sufficient to permit of its effectively occupying the conquered country, while at the same time carrying on active operations. He demanded, therefore, from home the despatch of four companies and two new battalions.<sup>2</sup>

It was not until the 15th July that the first detachment of the 2nd Regiment began to arrive slowly, owing to the unfavourable conditions under which disembarkation at Swakopmund was carried on, and the difficulties of transport by the railway. During March, heavy gales had destroyed part of the mole; alongside the mole, moreover, had become silted up with sand to such an extent that the tugs which formerly were able to run alongside, were now no longer able to do so, and a double transhipment was necessary; it was then not possible, as the Grand General Staff pointed out in the Memo. of the 16th January, 1905, to send out simultaneously the troops and stores recognised as necessary, and it was considered advisable to allow a certain interval between the sailing of the different transports under penalty of seeing them accumulate at Swakopmund without being able to discharge. The output of the railway from Swakopmund to Windhoek had been much increased by the despatch of engines and trucks, and by the zeal displayed by the railway troops; but it was still insufficient, and its usefulness limited by the difficulty of supplying the engines with water over part of the route.

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<sup>1</sup> The detachment brought to Grootfontein by Commandant von Zulöw (the 3rd Company of the 1st Regiment, 2 guns, 2 machine guns, 4 officers, and 200 rifles).

<sup>2</sup> These reinforcements, which were granted him, arrived in the Colony on the 13th and 27th August, the 11th and 24th September, and in round numbers, raised the effective of the German troops in South-West Africa to 9,000 men, including the Reservists and Landwehr.



In the first days of August, nevertheless, the reinforcements which had arrived enabled General von Trotha to create two new detachments, comprising: the 1st, under the orders of Colonel Deimling, four companies, a battery and a half, with a half-company of Béthaniens;<sup>1</sup> the 2nd, under the orders of Captain von Fiedler, two companies and a half-battery.<sup>2</sup> No modification was made in the detachments, von Estorff, von der Heyde, Mueller (Major Mueller had relieved Major von Glasenapp at the end of July), and Volkmann. With these 6 detachments, representing in round numbers a force of 16 companies, 30 guns, and 2 machine guns (a total of about 100 officers and 1,500 men), General von Trotha resolved to resume the offensive against the groups of the enemy reported on the southern slopes of the Waterberg.

On the 3rd August, the positions occupied were as follows:—

Detachment von Estorff	at Otjahewita.
„	von der Heyde at Omutjajewa.
„	Mueller <i>en route</i> from Otjire.
„	on Erindi-Ongoahere.
„	Deimling at Okateitei.
„	von Fiedler at Orupemparora.
„	Volkmann at Otjenga.

The circle of investment, which, on the 15th July, was 450 kilometres (281 miles), was now not more than 275 kilometres (234½ miles). The headquarters, which marched with the detachment Mueller, was in communication by wireless telegraphy with the detachments von der Heyde and von Estorff, distant respectively 40 and 75 kilometres (25 and 47 miles); it was in communication by optical telegraphy with Colonel Deimling, 35 kilometres (22 miles); with Captain von Fiedler, 70 kilometres (43¾ miles); and finally, with Lieutenant Volkmann, 125 kilometres (75 miles) off. A service of *estafettes* also kept up communication between the different columns.

On the 7th August, reliable reports having confirmed that the Hereros were assembled in considerable numbers — some 5,000 or 6,000 of whom were armed with modern rifles—in the triangle comprised between Otjosongombe, Hamakari and Omuweroume, General von Trotha sent to his detachments orders to move forward on the 10th August, so as to be ready to attack simultaneously at 6 a.m. on the 11th. The different points assigned were as follows:—

To the columns Mueller and von der Heyde, Hamakari, Lieut.-Colonel Mueller attacking from the south and Major von der Heyde from the north-east; the column Deimling, Omuweroume; the column von Estorff, Waterberg.

These two last detachments were, after gaining possession of Waterberg and Omuweroume, to co-operate as far as possible in the fighting about Hamakari, taking the Hereros on the flank or in reverse.




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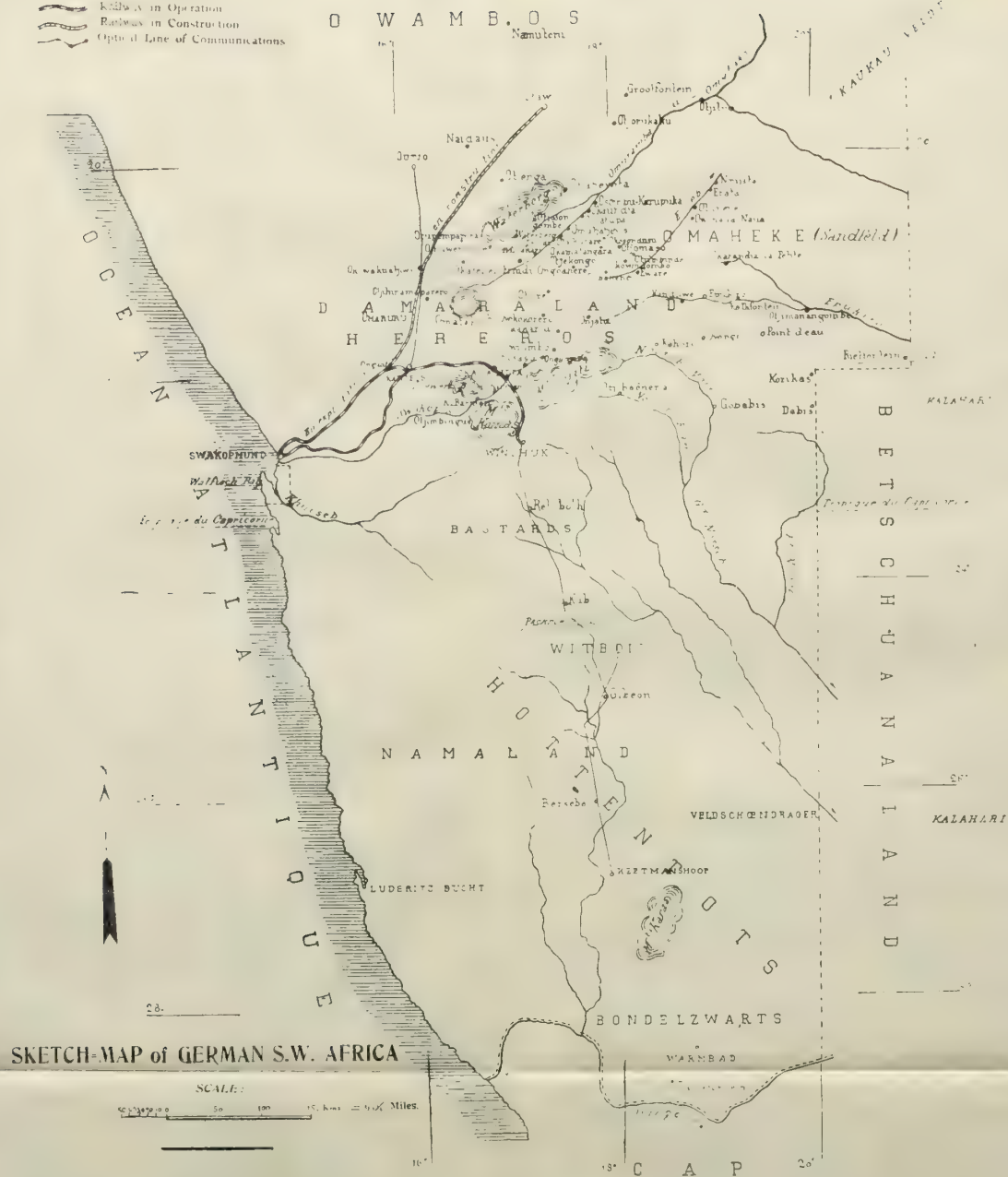
<sup>1</sup> Nos. 2, 3, 4, and 6 of the 2nd Regiment, the 7th Battery, and half of the 1st Battery, a total of 20 officers, 478 rifles, and 6 guns.

<sup>2</sup> The 1st Company of the 2nd Regiment, the 8th Company of the 1st, and the other half of the 1st Battery, a total of 4 officers, 180 rifles, and 2 guns.





**EXPLANATION**  
 Railway in Operation  
 Railway in Construction  
 Optical Line of Communications



SKETCH-MAP of GERMAN S.W. AFRICA

SCALE:  
 0 50 100 Miles  
 0 50 100 Kilometers

The detachments von Fiedler and Volkmann, were assigned the duty of barring the line of retreat to the northward to the Hereros. (See Plan.)

The Hereros offered resistance to the four columns. Major von Estorff came in contact with the enemy at Otjosongombe, and succeeded in pushing them back towards Waterberg; but he was not able to reach the water springs, and had to remain for the night at Otjosongombe. Major von der Heyde, attacked by superior forces 15 kilometres ( $9\frac{1}{2}$  miles) to the north-east of Hamakiri, was only able to maintain his position with difficulty, and fell back at night on Otjiwarongo.

The Hereros made only a weak resistance at Omuweroume, and retired in an easterly direction, driving before them a numerous

### COMBATS DU WATERBERG (11.8.1904)



herd of cattle. Colonel Deimling followed in pursuit, but it was only at nightfall that he was able to reach Waterberg with the main body of his detachment, and he halted there.

The column Mueller<sup>1</sup> was thus left to its own resources; but after a very hard struggle, which lasted all day, it succeeded in defeating the Hereros, but was unable to pass Hamakiri.

The detachments von Fiedler and Volkmann had on their side, without striking a blow, taken possession of the principal passes to the north of the Waterberg.

<sup>1</sup> Commanded by Major von Mühlenfels, in place of Lieut.-Colonel Mueller, who had been injured by a fall from his horse.



On the following morning, the German columns found themselves facing each other; but the enemy had disappeared. Taking advantage of the gap of 15 kilometres ( $9\frac{1}{2}$  miles) left open between the detachments Mueller and von der Heyde, the Hereros escaped towards the south-east, carrying away with them the greater part of their wives, children, and cattle. The success was not, therefore, as complete as General von Trotha had hoped to attain. With the resources at his disposal, and working in a country covered with brushwood, it was difficult for him to have done better. With the 13 companies of the von Estorff, Mueller, von der Heyde, and Deimling Detachments, it was materially impossible for him to guard all the accessible paths abutting on the front of 40 kilometres (25 miles) occupied by the Hereros, and he had to confine himself to guarding the principal ones. The perfect knowledge which the insurgents possessed of the smallest paths, the facility that the woody nature of the country gave them to pass through unseen, even when within a short distance of the German columns, rendered illusory, *a priori*, the hope of capturing them in a body, by a single and fortunate cast of the net; the most that could have been hoped for was to seize the cattle which constituted their principal resource. The check received by the von der Heyde column did not even allow of this material result being obtained. The moral results were, nevertheless, considerable. As ulterior events showed, the check sustained at the Waterberg broke the strength of the resistance and moral energy of the Hereros; their want of success marked for them the commencement of an ill-omened period, in the course of which, everywhere hunted, holding no part of the country, thrown back into the dreadful deserts of the Sandfeld, they had no other alternative than surrendering, passing into English territory, or resigning themselves to perish, victims of hunger and thirst.

The fighting on the 11th August cost the Germans 5 officers, 6 non-commissioned officers, and 18 men killed; 7 officers, 10 non-commissioned officers, and 44 men wounded.

*(To be continued.)*

## THE NEW GERMAN RIFLE BULLET.

*Communicated by the War Office.*

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TWO of the most important properties which a military rifle can possess are great ranging power and a flat trajectory.

These properties depend mainly on two factors, high muzzle velocity and high sectional density, *i.e.*, a high ratio between weight and cross section of bullet. A third factor is the shape of the bullet, more particularly the shape of the head, by which the resistance of the air is considerably modified.

Considerations of recoil, weight of rifle, etc., make a heavy bullet incompatible with high muzzle velocity, and in order to keep the sectional density as high as possible, it has been found necessary, as the evolution of the rifle has progressed, to reduce the diameter of the bullet as well as to reduce its weight. In modern military rifles the diameter of the bullet varies between 0.32 and 0.26 inch, the corresponding weight of bullet being from 244 to 163 grains.

The German military authorities have been experimenting for some time past with a view to increase the muzzle velocity of their rifle to approximately 3,000 feet per second, in order to insure the flattest possible trajectory at decisive ranges, a consideration which they regard as of primary importance.

There were obvious objections to doing this by reducing the calibre of their rifle from 0.311 to 0.256 (or some smaller calibre) which would be the first method to suggest itself. Apart from the great cost involved in such a change, there are certain objections to a very small bore, *per se*, viz., diminished wounding power and increased difficulty of cleaning and keeping in order the interior of the barrel.

The alternative solution was to improve the ballistics of the existing rifle by a suitable modification of its ammunition, and it appears, from a recent article in the *Kriegstechnische Zeitschrift* (1905, *Heft* 9), that this has been effected partly by the adoption of a more powerful charge (whether a new powder is involved is not quite clear) but mainly by the adoption of a new bullet, known, on account of its pointed shape, as the *Spitze-geschoss* or "S" bullet.

This bullet (a sketch of the reported shape of which, together with further details, is appended) weighs only 154.3 grains as against the 227 grains of its predecessor, or as against the 215 grains of our Lee-Enfield bullet.

This reduction of 73 grains weight, coupled with the higher pressure given by the new charge, has apparently raised the muzzle velocity of the German Mauser from about 2090 f.s. to about 2900 f.s.

An additional and by no means unimportant advantage secured by the reduction in weight of the bullet is that about 15 per cent. more ammunition can be carried than heretofore.

It will be seen that in designing their new bullet the Germans have deliberately departed from the principle, hitherto considered essential, of a high sectional density.

*Assuming, however, the correctness of the published data*, it is evident that this low sectional density has been compensated for by the altered shape of the new German bullet, which gives rise to a very much lower air resistance than has hitherto been considered possible at normal atmospheric temperature and pressure.

The importance of the alteration in form may be gauged by the fact that had the normal shape been retained, the remaining velocity of the bullet at about 1,000 yards would have been no greater than that of our bullet, which starts at 800 f.s. lower velocity, while beyond 1,000 yards the heavier bullet would have travelled faster.

As it is, the "S" bullet maintains its superiority in velocity at practically all ranges. Whether it compares favourably with the heavier bullet in accuracy is, however, doubtful.

The greatest advantage given by the "S" bullet in the matter of flatness of trajectory is to be found between 500 and 800 yards. At 700 yards range a man 5 feet 9 inches in height would be hit anywhere along the range if the muzzle of the rifle were 12 inches from the ground, the sights set at 700 yards, and the ground line aimed at. The same effect would only be produced with our present service rifle at about 550 yards.

Without experimental data it is difficult to estimate exactly the energy of recoil of a 9-lb. rifle with a muzzle velocity of 2900 f.s. and a 154-grain bullet, but it would appear to be well below the limit of 15 ft.-lb., which is the maximum desirable in a military rifle.

Two further questions affecting the military value of the new bullet arise: its wounding power, and its penetration.

Taking the striking energy of the bullet as the measure of its wounding power, it would seem that the new bullet is more effective than the Lee-Enfield up to between 900 and 1,000 yards; beyond that range it is slightly inferior, but the difference is not marked.

Apart from its superior striking energy, however, the so-called explosive effect characteristic of modern high-velocity bullets at close ranges would probably be occasioned by the "S" bullet at very much greater ranges than is at present the case; possibly up to 600 or 700 yards, as against 200 or 300 with the present bullet. Experiments, however, would be necessary to test this point.

As regards penetration, the advantage must lie with the new bullet at all except extreme ranges.

Diagrams of the new and old German bullets, and of our 0.303 bullet, together with comparative ballistic tables and diagrams of trajectories, are appended.



## RANGE TABLES.\*

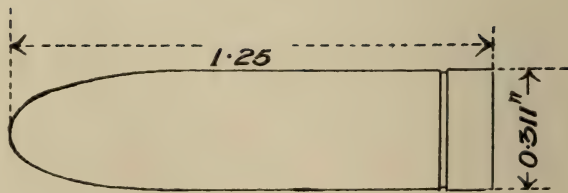
Range.	Lee Enfield. "C" = 0.411. "S" Bullet. "C" = 0.40.											
	Angle of projection.		Time of flight.		Remaining velocity.		Striking energy.		Max. height attained.		Angle of descent.	
	L.E.	"S."	L.E.	"S."	L.E.	"S."	L.E.	"S."	L.E.	"S."	L.E.	"S."
yards.	dgs.min.	dgs.mns.	secs.	secs.	ft.-secs.	ft.-secs.	ft.-lbs.	ft.-lbs.	feet.	feet.	dgs.min.	dgs.min.
0 ...	0 0	0 0	0	0	2,060	2,909	2,036	2,916	0	0	0 0	0 0
200 ...	0 9	0 4 $\frac{1}{2}$	0.32	0.23	1,673	2,355	1,343	1,910	0.4	0.2	0 11	0 5
400 ...	0 21	0 10 $\frac{1}{4}$	0.72	0.52	1,361	1,900	889	1,244	2.1	1.1	0 28	0 14 $\frac{1}{2}$
500 ...	0 29	0 14 $\frac{1}{4}$	0.95	0.68	1,229	1,712	724	1,009	3.6	1.9	0 40	0 21
600 ...	0 37 $\frac{1}{2}$	0 18 $\frac{3}{4}$	1.21	0.87	1,119	1,538	600	814	5.8	3.0	0 55	0 28 $\frac{1}{2}$
800 ...	0 59	0 29 $\frac{3}{4}$	1.78	1.30	981	1,239	461	529	13.3	6.8	1 36	0 53
1000 ...	1 25	0 45 $\frac{1}{4}$	2.43	1.83	886	1,039	377	371	24.9	14.0	2 25	1 30
200 ...	1 58	1 5 $\frac{1}{2}$	3.14	2.44	807	930	313	298	42.2	25.2	3 26	2 19
500 ...	2 56 $\frac{1}{2}$	1 46	4.33	3.50	708	803	240	222	83.5	53.5	—	—
1000 ...	5 8	3 21 $\frac{1}{2}$	6.70	5.60	569	642	155	142	198.0	141.0	—	—

\* The "S" table has been calculated upon the basis of the article in the *Kriegstechnische Zeitschrift*.

Similar tables, based upon slightly different data, have appeared in the *Field* of the 16th December last, and in the January number of *Arms and Explosives*.

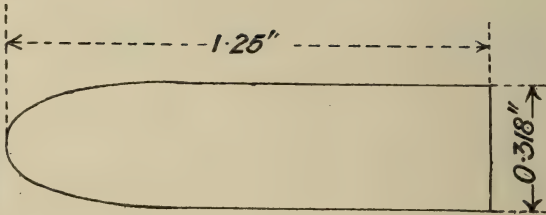
# BRITISH AND GERMAN RIFLE BULLETS.

GREAT BRITAIN.  
Weight, 215 grains.

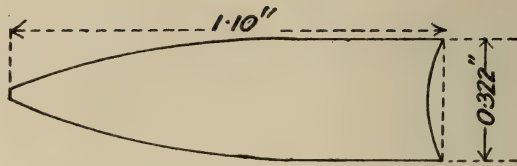


Scale  $\frac{2}{3}$ .

GERMANY, 1888—1905  
Weight, 227 grains



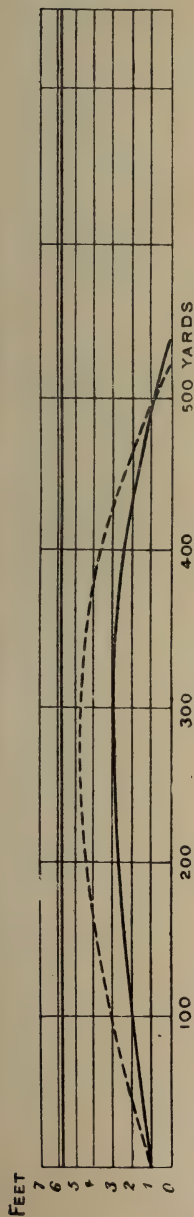
GERMANY, 1905.\*  
(Reported shape of "S" bullet.)  
Weight, 154.3 grains.



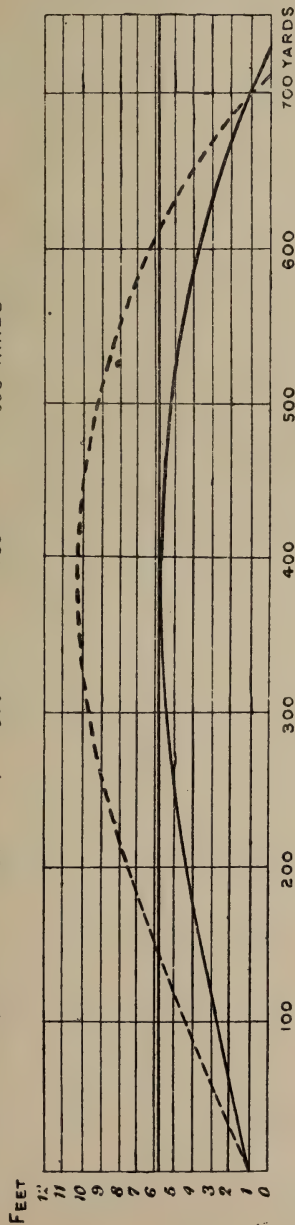
All three bullets have lead cores, the British bullet having a cupro-nickel jacket, the jackets of the two German bullets being of nickel-plated steel.  
\* *Kriegstechnische Zeitschrift*, Heft 10, p. 607

# MUZZLES 1 FOOT FROM GROUND.

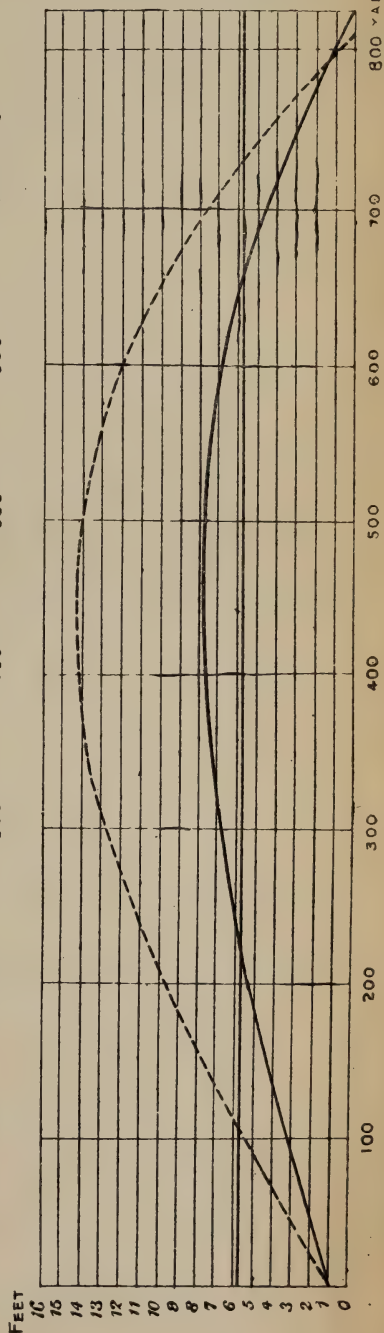
*L.E. (upper)* - - - - - "S" (lower) ———



A standing man 5' 9" in height would be hit by either bullet at 500 yards.



The same man would be hit by the "S" bullet over the entire range of 700 yards, while with the present Lee-Enfield bullet he would only be hit over about 250 yards.



The same man would be hit over about 350 yards of an 800 yards range by the "S" bullet as against about 180 with the Lee-Enfield.



# PRIMARY CONDITIONS FOR THE SUCCESS OF CAVALRY IN THE NEXT EUROPEAN WAR.

*Lecture given before the Berlin Military Society by Lieut.-General  
von PELET-NARBONNE.*

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Translated by permission.

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*Continued from January JOURNAL, p. 102.*

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IN order to assist at arriving at a correct judgment of the efficiency of the Prussian cavalry in the war of 1866, a quotation is here made from the words of General von Moltke in a report to King William I. on the 25th July, 1868.<sup>1</sup>

The General says: "Where, in the war of 1866, the Prussian cavalry were successful in action, it always charged down upon the enemy. Some individual squadrons and regiments again and again showed themselves superior to the enemy, and some splendid march operations have been performed. Still, the value of this arm remained comparatively speaking, small, while a large number of units never came in contact with the enemy at all." In another place, he says, "Practically the cavalry *never* supported the infantry." The General quotes only ten instances "where regiments, as regiments, and one where a brigade have attacked. On the other hand, the cavalry was often not at hand when required, and had to be sent for. At Königgrätz, where the cavalry of the 1st Army was opportunely in the right place at the right time, but was prevented from moving forward until the infantry had crossed the Sadowa, it neglected to prepare and arrange crossing places. Only two fords were practicable, and the leading detachments came into action before those in rear were across. When the general pursuit should have begun, the action of the cavalry ceased altogether. Some brigades remained quite inactive. The reserve cavalry division of the 2nd Army was kept so far in rear that it only came up at the end of the battle. The cause of the indifferent performance of the cavalry lies not in the material, but in the leading, the formation, and the distribution. The cavalry also often shirked coming under shell fire." I shall come back later to this point.

Moltke then remarks: "Our cavalry failed, perhaps, not so much in actual capacity as in self-confidence. But all its initiative had been destroyed at manœuvres, *where criticism and blame had become almost synonymous*, and it therefore shirked independent bold action, and as much as possible kept out of sight far in the rear." Further on, Moltke complains "that the reserve cavalry of the 1st and 2nd Armies, which, in spite of the supply difficulties, was

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<sup>1</sup> Moltke's "Taktisch-strategische Aufsätze aus den Jahren 1857-1871." Berlin, 1900.

carefully kept in hand until the battle of 3rd July, was then never thrown in front of the advancing columns just when it might have performed important reconnaissance duties." He concludes with the words: "The reserve cavalry of the 1st and 2nd Armies has been employed very little,<sup>1</sup> or not at all, in the duty of guiding the Army. For long distance scouting this cavalry has never been used at all."

If one compares the efficiency as sketched by Moltke—of the Prussian cavalry of 1866—(that of the enemy in self-sacrifice, as shown on the 3rd July, was on much the same plane), with the performances of the arm in the American Civil War above-mentioned (see JOURNAL for January last, pages 100-102), one *must impartially admit, after consideration of the different conditions, that there was the real article*. How helpless and inept were these European horsemen compared with those led by Stuart.

Most extraordinary of all, to our modern ideas of the employment of cavalry, seems the meagre use made of the mounted men for reconnaissance. As though Murat's cavalry divisions of the French Army had never been sent far to the front, with us the cavalry force—known by the ill-omened name of "Reserve cavalry"—was kept in rear, while the divisional cavalry, composed of advanced guard, main body, and reserve, reconnoitred anything but far afield. Thus approved methods were altogether forgotten, a heavy indictment against the manner in which military history has been studied during the years which have elapsed since the Napoleonic wars.<sup>2</sup>

We shall see that the defects recognised by Moltke in 1866 were remedied in 1870-71, so far as concerns the work of reconnaissance, and so far also as reform was possible in so short a time. Other shortcomings, which had not revealed themselves in the brief campaign and which were unnoticed by Moltke—such as the unsatisfactory fire-arm, and the want of practice in its use—were not remedied. A further evil, which may not have come before the General, was the poor condition of the numerous registered horses in the squadrons—this was, however, noticed, and the cavalry reorganisation, which had already been put in hand, was continued after the war. In regiments where it had not already existed, a fifth squadron was raised, and this was not mobilised as in 1864 and 1866, but was organised as a *dépôt* or reserve squadron, whereby the intrinsic value of the cavalry was appreciably increased.

In connection with this reorganisation, I would emphasise the immense importance for our cavalry of this particular work, and that *any tampering with the principle of having as few registered horses as possible in the field squadrons, must seriously lower the efficiency of the arm*. May the cavalry be spared so mischievous and retrograde a step! The experiences of the War of Liberation have already shown us what we may expect from the admission of raw young horses in the ranks, for not only do these soon succumb under hard work, but when drafted into the field service squadrons in large numbers they lower the whole level, since any demands made on the troops must be carried out according to the powers of the horses with least endurance. I may here, perhaps, recall a personal experience. In the ranks of

<sup>1</sup> After the battle on 3rd July.

<sup>2</sup> "Geschichte des Krieges von 1866 in Deutschland," von Lettow-Vorbeck. 1 Bd. Gastein-Langensalze. Berlin, 1896.

the squadron which I commanded in 1870, there were twelve remounts—a fair enough number since one can always employ some of these as batmen's horses to accompany the wagons. Of those in the ranks four succumbed to the hard work of a reconnaissance, carried out by the squadron from Weissenburg, across the Sauer at Gunstett,<sup>1</sup> and only two of them ever again saw their garrison at all.

I now come back to Moltke's remark that the cavalry shirked exposure to shell fire. As an example, in the report of the battle of Königgrätz, reference is made to a cavalry brigade of the Elbe Army, which did nothing, but which, according to its own account, was subjected to a heavy artillery fire in which "the shells were bursting close in front of the brigade"—result, one wounded hussar! Whence this avoidance of casualties so often noticed with the cavalry? The men on horses are the same brave fellows as their comrades on foot, and when on patrol, they showed themselves cool and daring even to foolhardiness. The cause must be sought in the training under which the leaders were formed. One heard everlastingly repeated the axiom that cavalry must not run the risk of incurring casualties from fire prior to the charge, it must, therefore, be kept in the rear; this great respect for infantry fire, which, in itself, was quite justifiable, had developed a timidity for coming to grips at all—we shall find the same when we come to consider the Russo-Turkish War—and all the talk about "the costly arm—more difficult to replace than the others"—may also have contributed to this ultra-caution. We should remember the construction which General Carl v. Schmidt gave to this dogma, and which he thus expressed: "This arm is far too costly to have any check placed on its employment." Principles, correct in themselves, have also done harm through an exaggerated stress being placed on them, particularly at manœuvres—see Moltke's Report—and one should be thankful that our cavalry is now taught to attack and come to close quarters with the other arms. Another, and perhaps the strongest, reason of all, for the poor results obtained by the cavalry on the battlefield, lies in the characteristics of many leaders. An attacking cavalry is like a shot which has been fired, the effect of which cannot be foreseen, and which, under certain circumstances, might recoil on the firers. Many a cavalry officer, personally brave enough, has shrunk from making up his mind to a course of action, the result of which cannot be determined in advance, and which may demand great, and perhaps fruitless, sacrifices from his men. With the other arms it is possible to break off an action—not so with the cavalry charge, fate must run its course. "*With cavalry, everything depends exclusively upon the initiative of the commander, hence the immense importance of the personal element. Without his direct personal influence, nothing can be done.*" On the other hand, it may, for instance, be quite conceivable that a division of infantry in a chance encounter wins the day entirely through the natural course of events, and the energetic action of the subordinate leaders, without the divisional general having had anything whatever to do with obtaining this result. The leaders of bodies of cavalry attached to other arms, whose commander is slow to make up his mind, might, in such a case, be less inclined than usual to order an attack to be carried out, which they know to be necessary. The

<sup>1</sup> General Staff History, p. 201.



cavalry commander, free from all responsibility, would, no doubt, accept such an order gladly and carry it out with skill and energy. The celebrated charge by Bredow at Vionville would probably have never been made had a direct order not been received. Sometimes theory and sometimes practice is the chief factor in achieving great results.

Cavalry must be educated up to a readiness to act, absolutely regardless of consequences, and to a determination to conquer. We must recognise that there is nothing out of the common in the blood of a mounted man; this arm must risk casualties, as the infantry has often done before, without losing its battle value; while exaggerated ideas must be avoided, as, for instance, where the charge just mentioned has been dubbed "the death ride," as though such an action had never previously been heard of. Such an attack has been made before with the same bravery and equal losses, as also have many deeds of the other arms, without much fuss having been made about them.<sup>1</sup> The faults, from which the German cavalry suffered during the war of 1870-71, were due—in so far as they have not already been dealt with—to the *Personality* of the superior commanders—a question, the importance of which had been frequently emphasised, but not altogether happily solved—more especially in the fact that they avoided every opportunity of manœuvring the division entrusted to them, so that in consequence of this fault, many of them would certainly and naturally have been found deficient in self-confidence if they had been suddenly called upon to command 24 squadrons combined. This want of confidence, felt and apparent, to perform the duty laid upon them, could be seen from the fact that the divisions were hardly ever manœuvred as a whole; they worked with three separate brigades, each of which had its own orders, and not infrequently the divisional general rode apart with his staff, taking no part in what was going on. So, for instance, the 5th Cavalry Division, in its operations the day after Metz, and the 4th in the advance from Chartres to Coulmiers on the 9th November, the latter in the former battle.<sup>2</sup> Since one cannot imagine that the senior officers at the head of these divisions did not know the value of concerted action, the explanation of this phenomenon may be found above, while also the reluctance to launch the whole division to the attack may have had something to say to it.

Another fault was, further, that when the war broke out, not only were the divisions improvised, but, to some extent, also the brigades. Commanders did not know their staffs, and had no knowledge of the capabilities of the subordinate leaders; this had the worst possible results, for, in the case of most important duties, those detailed for them, according to seniority, were often the least capable of carrying them out. That the unavoidable friction caused by such improvisations has far worse consequences for cavalry than for the

<sup>1</sup> "Das Leben des Soldaten im Gefecht, wo es sein muss, ohne Bedenken zu opfern, dies ist das grosse Kriegsgesetz, dem sich der Soldat wie der Anführer mit gleicher Bereitwilligkeit unterwerfen muss." Boyen, Denkwürdigkeiten II.

<sup>2</sup> On this occasion the divisional commander was present with one brigade.

other arms, and that misunderstandings arise which are difficult to smooth, will be apparent to all; clear, full tone can only be got from a well-trained orchestra.

Another bad thing was the inadequate armament. Whole divisions did not possess a single regiment armed with carbines, while the weapon itself was of but small value, and the troops had not been properly trained to its use. The training with the *arme blanche* was good enough, but still many faults in equipment passed at that time unnoticed. Training in reconnaissance was then not nearly so thorough as it is now, although good enough compared with the utter inefficiency of the enemy's cavalry in the first part of the war, but we often failed from unsatisfactory armament under the conditions which arose later in the "People's War."

In spite of all faults, many smart performances by the cavalry in this war show us that a good beginning had been made with these regiments, where they were well handled, and *Vionville will always remain as a proud page of glory in the history of the Prussian cavalry*. But how often again has this same cavalry sat still and watched the struggles of the sister-arms, although they may have longed to take part, and the laurels, so to speak, lay on the road in front of them? Beaune la Rolande is a case in point; while Artenay and Coulmiers might each have been another Rosbach for the German cavalry. The importance of the personal element is ever apparent. How differently would things have turned out had a General Carl von Schmidt or a Colonel von Alvensleben been in command. Is it mere chance that the regiments trained and led by these men fought with such special distinction; that the 16th Hussars were engaged, mounted and on foot, more frequently than any other cavalry regiment of the whole Army; and that in the 15th Uhlans all the four squadron commanders found occasions to win for themselves the Iron Cross of the 1st Class? Many regiments had the same opportunities to come to the front, but they did not take advantage of them; the cause of this has been discussed.

As before, after the Napoleonic wars, so now no doubt was felt that the achievements of the cavalry were not up to what had been anticipated, and a cavalry committee, which was formed on the 13th March, 1872, in Berlin, was ordered to deliberate on "the changes and modifications necessitated in the drill books of 1855 by the latest experiences, and on the orders for the instruction of the troops in field duties," further, "what changes were required in armament, clothing, and equipment."

The proceedings of this committee did not remain buried in their reports, as was the case with the proposals of Blücher and his generals, but they have formed the basis of a reorganisation of the German cavalry, which has placed this arm in a position to await the future on the field of honour with joy and confidence.

The remodelling and improvement of the cavalry has not, however, come to an end with the progress already made; circumstances demand further improvement in every direction—to stand fast, content with what has been done where there can be no finality, would be to go back.

(To be continued.)

# THE VON LÖBELL ANNUAL REPORTS ON THE CHANGES AND PROGRESS IN MILITARY MATTERS IN 1904.

*Précis from the German by* LIEUT.-COLONEL E. GUNTER, *p.s.c.*,  
(late) *East Lancashire Regiment.*

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Continued from the December JOURNAL, p. 1414.

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## PART III.

### CONTEMPORARY MILITARY HISTORY.

The Historical Summary of the past year's events is a very comprehensive one. It comprises:—

- I. The fighting in Somaliland under General Egerton.
- II. *a.* The insurrection of the Herreros in German S.W. Africa from its commencement to the end of 1904.  
*b.* The fighting in the Cameroons.  
*c.* The revolt in New Guinea.

- III. The Russo-Japan War from its opening to the Battle of Liao-yang and the fall of Port Arthur.

Our officers are well acquainted with the first.

It would be of great interest to epitomise the operations against the Hereros, etc., but space considerations forbid it.

The account of the Russo-Japan War up to the end of 1904 is so long, covering 34 closely printed Post 4to pages of German type, that it is impossible to do more than give a few extracts from this valuable summary, which is divided under the following heads†:—

1. Causes of the war.
2. Strength of the opposing forces; their mobilisation.
3. The fighting for the command of the sea down to Admiral Makaroff's death on the 13th April.
4. Land operations up to the passage of the Yalu (3rd April).
5. The Japanese landing on the Liao-tung peninsula and the investment of Port Arthur (27th May).
6. The battle of Wafankou (15th June).

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†The spelling of names of places, etc., in the Report is apparently taken from Russian maps. I have endeavoured to put them into the form mostly used by English correspondents, but many places have different forms of names.—E.G.





On the whole, the service rendered by this railway was remarkable. Only in the early spring and in December was the traffic interrupted; in the first case for 2 or 3 weeks; in the second for 2 or 3 days.

**Japan.**—The armed strength of Japan† at the outbreak of the war, including all its 13 active Divisions, 2 Cavalry and 2 Artillery Brigades, was 156 Battalions, 55 Squadrons, 117 Batteries. Total, 165,000 rifles and sabres and 702 guns. Each Division had also a Reserve Brigade of 6 Battalions, 1 Squadron, and 1 Battery on foot. These were, in the case of at least half the active Divisions, doubled on the outbreak of the war, so that each had a Reserve Division to reinforce it. It was not till after the battle of Liao-yang, however, that these Reserve troops came up into the first line. Besides these, other 2nd line troops were used on the line of communications, regarding which no details have transpired.

The Japanese Landwehr and Landsturm organisation is stronger than was supposed.††

It was not necessary to mobilise the whole Army at once, as transport was not available.

The Japanese Merchant Service, after supplying their Navy with the necessary hospital-ships, coaling, ammunition, machinery, and workshop-vessels, etc., was able to transport at one time across to Korea 4 active Divisions with their trains.

It took 3 days to embark a Division and 5 days to disembark one. Inclusive of the time of coming and going, preparation, etc., it would be about 15 days before the whole 4 Divisions were landed. On this calculation it would have been about the middle of April before all 13 were across.

As a matter of fact, the whole Army with its Reserves were not landed till near the end of the year; but this was because the Japanese War Ministry did not consider it necessary, not because they were unable to do it sooner.

The mobilisation went on quite smoothly. The want of horses was met by purchases in foreign countries.

In September the active Reserves having been exhausted, the service in the Landwehr and liable to service abroad was extended, and that in the Landsturm also prolonged.

Filling up the places of the officers was a more difficult matter. Some promotions from the non-commissioned ranks have taken place, and the cadets of the Military Colleges have been commissioned much earlier than is the rule.

The following table shows roughly the approximate total strengths of both Armies with subsequent reinforcements in 1904:—

†For details see the JOURNAL for October, 1904, p. 1130.

††It was stated in the newspapers that a 5th Army of 8 Divisions, 140,000 men, was being formed in March from the Reserves of 1887-91, to move up on the right of the other armies in Manchuria; and a Reserve Force, formed from those discharged to the Reserve, 1884 to 1886, was retrained for the Defence of Japan. The vast numbers deployed by Japan at Mukden and after bear out the text.—E.G.

RUSSIA.*						JAPAN.							
Period.	Increase owing to Reinforcement.**	Bn.	Sqdn.	Batt.	Total Sabres & Rifles.	Guns.	Fresh Units.	Active Divns.	Res. Brig.	Cav. Brig.	Art. Brig.	Total Fighting Strength.	Guns.
1904.							Regular Divns.						
Feb. 6.	E. Sibn. Troops and 2 Half European Divs	92	35	25	97,250	196	9, 2, 12,	3	2	—	—	54,000	120
Apr. 30.	E. Asia Res. Formations.	140	75	49	151,250	382							
May 15.		140	75	49	151,250	382	1,3,4,5,1	7	2	1	1	111,200	372
June 15.	Sibn. Cossack Divn. IVth Siberian Army Corps. Orenburg Ural Cossacks.	172	117	61	190,550	474	6, 10, 11.	10	2	1	1	153,200	480
July 31.	Xth, XVIIth Army Corps, Caus Cos.	221	183	85	248,450	662	9 R.	11	3	1	1	173,200	522
Aug. 31.	Vth Sibn. Army Corps	253	183	107	280,450	830	2nd C.B.,	11	5	2	2	216,400	672
Oct. 15.	Ist Army Corps, Vth Sibn. Army Corps.	317	183	131	344,450	1,022	2nd A.B.						
Dec. 31.	4 Don Div., 61 Inf. Divns., VIIIth Army Corps, 1st and 2nd Rifle Brigades.	381	207	165	412,050	1,282	7, 8	13	10	2	2	244,400	744

\*At the beginning of the war, Russia formed a new East Siberian Army from the East Asian troops, reinforced from the European Army.

\*\*The Russian strength, as above, is the total paper strength, from which about 30 per cent. should be deducted for the effective strength.

The Japanese total strength is given as near as can be reckoned. By continuous steady reinforcement, they, however, keep up their effectives to it.

### The Operations.

On the 10th February, 1904, Admiral Alexieff was appointed Commander-in-Chief both of the sea and land forces. He gave over the command of the land forces in Southern Manchuria to General Linievitch,† Commander-in-Chief of the troops of the Amur District.†† On the declaration of war he at once sent his Cossacks across the Yalu and Tumen rivers into Korea. When General Kuropatkin arrived in Liao-yang as Commander-in-Chief, General Linievitch resumed his command (27th March, 1904). General Kuropatkin ordered Liao-yang to be entrenched, and that no offensive movements were to be attempted until he had obtained all the necessary reinforcements.

The Japanese general plan of operations has never transpired. From their course we may take it to have then been roughly:—

1. The occupation of Korea.
2. The cutting off of Port Arthur by sea and land; its capture.
3. The destruction of the Russian Fleet to secure command of the sea.

†Now Commanding in Chief the Russian Forces in Northern Manchuria.

††See the JOURNAL for 1901, p. 1191, and others.—E.G.



4. A concentric advance from the Yalu, Taku-shan, and Port Adams against the Russian Field Army, assumed to be at Liao-yang.

The landing of General Kuroki's Ist Army began on the 13th March, 1904, under very unfavourable weather conditions.

The leading troops reached the River Yalu early in April, but it was not till the 20th that the whole Army was concentrated about Witschu.

General Kuropatkin had then only 65,000 men with him. He detached General Sassulitch, the commander of the IIInd Siberian Corps,† with orders to delay the passage but not become too seriously engaged.

On the 30th April the Japanese, feinting against the Russian right, crossed opposite their left, and held their centre. On the 1st May the 12th and 2nd Divisions forced the Russians to retreat to Feng-hwang-cheng, and through it to the passes covering Liao-yang, followed by the Ist Japanese Army, which was based on the lower Yalu.

5. The beginning of the investment of Port Arthur.

The IIInd Japanese Army (1st, 3rd, 4th Divisions, 1 Cavalry Brigade, 1 Artillery Brigade), under General Baron Oku, had completed its mobilisation by the middle of March; but it was not till after the middle of April that it embarked for Korea. It was kept about Chinampo until the Ist Army had forced the passage of the Yalu.

On the 12th May the telegraphic and railway communication between Port Arthur and the rest of the Russians in Manchuria was interrupted.

The Japanese Fleet covering the landing of the troops suffered heavy losses; 1 vessel of the line and 1 aviso were blown up. A small cruiser was sunk in a collision.

On the 21st May the IIInd Army reached the country north of Kinchau.

On the 26th it attacked the Russian entrenched positions on the Nantshan range. After severe fighting the 4th Division took the position, assisted by the fire of the Japanese gun-boats.

On the 27th May the Japanese occupied Talien-wan, and on the 29th May Dalny. They were thus enabled to push forward to within about 36 kilos. (25 miles) of Port Arthur.

#### 6. The Battle of Wafangu (Wafangko).

While the IIInd Army was advancing successfully against Kinchau, the 10th Division had landed at Takushan. It was intended to act as a connecting link between the Ist and IIInd Armies.

The 1st and 11th Divisions were now formed into a IIIrd Army, and placed under command of General Baron Nogi, to carry out the investment and capture of Port Arthur.

The IIInd Army (3rd, 4th, 5th, 6th Divisions, 1st Cavalry Brigade, 1st Artillery Brigade) was to advance northwards.

The Russian Commander-in-Chief, Kuropatkin, now determined on assuming the offensive with a force consisting of 42 Battalions, 24 Squadrons, 12 Batteries, under General Baron Stackelberg, Commander

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†The 2nd Siberian Corps had 2 or 3 Brigades each of 4 Regts., each of 3 Battalions at the outset, but (see Table also, p. 228) Divisions were, however, soon formed, and the East Siberian Corps re-organised.—E.G.

of the Ist Siberian Army Corps. Behind this force he had the bulk of the IVth Siberian Army Corps at Haicheng. The Eastern Detached Force,† strengthened by half a Division of the IVth Siberian Army Corps, was to secure the northern communications of the Army, and Lieut.-General Count Keller was now appointed its Commander.

On the 30th May the 1st Japanese Cavalry Brigade was checked by a superior force of Russian Cavalry at Wafanku, and their Infantry advanced guard troops forced the Japanese back to Wafantien, while their main body coming up entrenched at Wafantou.

The Japanese 6th Division of the IIInd Army had been delayed at Port Adams, so General Oku, the Army Commander, decided to push on without it with his three other Divisions. On the 13th they reached Wafantien, 17 kilometres (11 miles) south of Wafantou.

On the 15th June he led the 3rd and 5th Divisions in frontal attack against the Russian Southern Detached Force, while his 4th Division threatened their right flank. The 5th Division, supported by 144 guns, held the Russians in front while the half of the 4th Japanese Division deployed about noon opposite the right flank. Fearing for his line of retreat, General v. Stackelberg ordered a general retirement about 3 p.m. His Commander-in-Chief had pushed forward all available troops towards Kinchau to help him, but his losses were severe, including many guns.

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†This had fought under General Sassulitch on the Yalu.—E.G.

*(To be continued.)*

## NAVAL NOTES.

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HOME.—The following are the principal appointments which have been made: Rear-Admiral—C. J. Barlow, D.S.O., to be Admiral-Superintendent of Devonport Dockyard. Captains—E. S. Fitzherbert to “Albemarle”; R. G. Fraser to “Ramillies”; W. G. Grogan to “Donegal”; H. R. Robinson to “Aboukir”; B. Currey to “Black Prince”; G. A. Ballard to “Euryalus”; C. Greatorex to “Eclipse”; R. H. Stewart, M.V.O., to “Argyll”; W. O. Story to “Cumberland”; C. H. Coke to “Cornwallis.” Commanders—A. W. Heneage, M.V.O., to “Iphigenia”; R. Y. Tyrwhitt to “Attentive”; the Hon. A. D. Boyle, M.V.O., to “Isis.”

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Vice-Admiral Sir A. W. Moore, K.C.B., K.C.V.O., C.M.G., hoisted his flag on board the first-class armoured cruiser “King Alfred” at Portsmouth on the 23rd ult., and left on the 31st ult. for China.

The first-class battle-ship “Ocean” commissioned at Chatham on the 2nd ult. for the Channel Fleet.

The first-class armoured cruiser “Kent,” which commissioned at Chatham on the 2nd ult., left Portsmouth on the 13th ult. for China, where she relieves the armoured cruiser “Hogue.” The first-class armoured cruiser “Euryalus,” flying the flag of Admiral Sir A. Fanshawe, K.C.B., late Commander-in-Chief in Australia, arrived at Spithead on the 7th ult.; Sir Arthur struck his flag the next day, and the ship will pay off and be placed in the Portsmouth Reserve Division. The new first-class armoured cruiser “Argyll” commissioned at Devonport on the 29th ult. for service with the First Cruiser Squadron, relieving the armoured cruiser “Monmouth,” which paid off at Devonport on the same day. The second-class cruiser “Hermes,” which commissioned at Portsmouth on the 9th ult. for service in the East Indies, where she relieves a sister-ship, the “Hyacinth,” as flag-ship, left Portsmouth on the 25th ult. for her destination. The second-class cruiser “Indefatigable” commissioned at Portsmouth on the 9th ult. for service in the West Indies, where she relieves the third-class cruiser “Diamond”; she left on the 23rd ult. for her station. The second-class cruiser “Iphigenia,” from China, paid off on the 10th ult. at Portsmouth.

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*Naval Expenditure and Mercantile Marine.*—Return showing Aggregate Naval Expenditure on Seagoing Force; Aggregate Revenue; Aggregate Tonnage of Mercantile Marine; Annual Clearances of Shipping in the Foreign Trade; Annual Clearances of Shipping in the Coasting Trade; Annual Value of Imports by Sea, including Bullion and Specie; and Annual Value of Exports by Sea, including Bullion and Specie, of various Countries, exclusive of China and South American Republics, but including British Self-governing Colonies, for the Year 1904.



NOTE.—Except where otherwise stated, the figures refer to 1904. Where it has not been found possible to give the particulars for 1904, the figures for the latest year available have been shown.

Countries.	Aggregate Naval Expenditure on Seagoing Force.	Aggregate Revenue.	Aggregate Tonnage of Mercantile Marine.	Annual Clearances of Shipping in the Foreign Trade.	Annual Clearances of Shipping in the Coasting Trade.	Annual Value of Imports by Sea, including Bullion and Specie.	Annual Value of Exports by Sea, including Bullion and Specie.
BRITISH EMPIRE	£	£	Tons.	Tons.	Tons.	£	£
United Kingdom	41,696,313 (a) (Year ended 31st Mar. 1905)	143,370,404 (Year ended 31st March, 1905)	10,554,520(b)	54,571,476	58,431,821	596,602,555	417,318,153
British India	541,590 { (c) { (d) { (Year ended 31st Mar. 1904)	83,756,155 (c) (Year ended 31st March, 1904)	78,105 (e)	6,229,211 (o) (Year ended 31st March, 1904)	14,674,480 (o) (Year ended 31st March, 1904)	87,412,253 (c) (Year ended 31st March, 1904)	112,374,027 (o) (Year ended 31st March, 1904)
<i>Self - Governing Colonies (h)</i>							
Australian Commonwealth: New South Wales...	—	12,951,896 (Year ended 30th June, 1904)	118,960	1,426,154	No Returns	13,133,857	23,089,785
Victoria	—	8,407,617 (Year ended 30th June, 1904)	163,630	370,851	No Returns	12,739,986	16,172,694
South Australia (except Northern Territory)	—	2,907,041 (Year ended 30th June, 1904)	56,670	313,050	No Returns	3,254,398	4,649,657
Northern Territory	—	72,459 (Year ended 30th June, 1904)	534	37,472	No Returns	35,271	59,788
Western Australia	—	3,978,468 (Year ended 30th June, 1904)	21,414	738,760	No Returns	4,021,953	9,912,432
Tasmania	—	1,019,216 (t) (Year ended 30th June, 1905)	18,399	236,092	No Returns	805,606	631,050
Queensland	—	4,249,385 (Year ended 30th June, 1904)	23,973	229,933	3,658,938 (g)	3,029,771	2,973,810
Total: Australian Commonwealth	142,951 (q)	33,586,082 (f)	403,580	3,352,312 (i)	—	37,020,842 (p)	57,489,216 (p)
New Zealand	40,742 (r)	7,113,031 (Year ended 31st March, 1904)	109,859	1,144,764	9,733,969	13,291,694	14,748,348
African—Natal	35,000	4,160,145 (Year ended 30th June, 1904)	2,160	2,155,332 (j)	Nil	10,760,734 (l)	2,480,771 (k)
Cape of Good Hope	50,000	9,913,855 (Year ended 30th June, 1904)	4,813	5,312,325 (i)	5,803,764	21,645,825 (l)	28,308,417 (k)
American—Dominion of Canada	—	14,526,573 (Year ended 30th June, 1904)	682,838	7,682,849 (m) (Year ended 30th June 1904)	22,092,242 (m) (Year ended 30th June 1904)	29,141,000 (n) (Year ended 30th June 1904)	32,701,000 (n) (Year ended 30th June, 1904)
Newfoundland	4,308 (s) (Year ended 31st Mar. 1905)	516,691 (Year ended 30th June, 1904)	125,506	802,084 (Year ended 30th June 1904)	No Returns	1,942,225 (Year ended 30th June 1904)	2,134,057 (Year ended 30th June, 1904)

NOTE.—The above particulars with regard to Naval Expenditure have been furnished by the Admiralty. The remaining particulars have been extracted either from Board of Trade Returns or from the Official Returns of the various British Possessions.

#### REMARKS.

(a) Of this total, £38,293,738 was ordinary expenditure, and £3,402,575 was expenditure under the Naval Works Act, 1903 (outside Navy Votes).

(b) Including the Isle of Man and Channel Islands.

(c) The rupee has been converted into sterling at the rate of 1s. 4d. the rupee.

(d) Including £100,000 contribution towards His Majesty's ships on the East Indian station. The balance represents expenditure on the Marine Department.

(e) Exclusive of some vessels of small tonnage registered under the Indian Act X. of 1841.

(f) The Revenue figures given for each State include the sums collected by the Commonwealth Government.

(g) Including the tonnage of vessels (2,296,053 tons) engaged in coasting voyages terminating beyond the State.

(h) The revenues of these Colonies are exclusive of loans raised.

(i) Excluding Inter-State shipping. The figures are not comparable with those given in previous issues of this return, as in 1904 the shipping returns were compiled by the Federal Government for the Commonwealth as a whole, and not by each State as in former years. In years prior to 1904, vessels trading between more than one State, and places outside the Commonwealth, were included in the returns of *each* of those States.

(j) Exclusive of the tonnage of transports.

(k) Including the value of diamonds and raw gold, the produce of South African Colonies, brought into the Colony overland, and exported by sea.

(l) Including the value of goods entered for removal to other South African Colonies.

(m) Exclusive of the tonnage of vessels (7,252,661 tons) trading on the rivers and lakes between Canada and the United States.

(n) As estimated by the Canadian authorities.

(o) Including native craft.

(p) Excluding Inter-State trade.

(q) This amount is made up as follows:—

	£
Contribution to the Imperial Navy in the year ended 31st March, 1905 ... ..	85,812
Estimated expenditure on Naval Forces for the year ended 30th June, 1905 ... ..	47,025
Estimated expenditure on Ships and Armaments for the year ended 30th June, 1905 ... ..	10,114
<b>Total</b> ... ..	<b>142,951</b>

The difference in dates is accounted for by the fact that the financial years of the United Kingdom and of the Australian Commonwealth do not end on the same date. The normal contribution from the Australian Commonwealth is £200,000.

(r) This amount is made up as follows:—

	£
Contribution to the Imperial Navy in the year ended 31st March, 1905 ... ..	40,000
Actual expenditure on the training-ship "Sparrow" for the year ended 31st March, 1905	742
<b>Total</b> ... ..	<b>40,742</b>

(s) The contribution from Newfoundland in respect of the maintenance of a branch of the Royal Naval Reserve in the Colony includes the sum of £1,693 received in respect of the year ended 31st March, 1904.

(t) Figures for the year ended June, 1904, are not available.

NOTE.—Except where otherwise stated, the figures refer to 1904. Where it has not been found possible to give the particulars for 1904, the figures for the latest year available have been shown.

Countries.	Aggregate Naval Expenditure on Seagoing Force.	Aggregate Revenue.	Aggregate Tonnage of Mercantile Marine (a).	Annual Clearances of Shipping in the Foreign Trade (b).	Annual Clearances of Shipping in the Coasting Trade (b).	Annual Value of Imports by Sea, including Bullion and Specie.	Annual Value of Exports by Sea, including Bullion and Specie.
	£	£	Tons.	Tons.	Tons.	£	£
Russian Empire	11,827,431	258,723,000 (p)	666,417	11,384,843 (d)	19,820,006 (d)	35,329,000 (e) (f)	78,313,000 (e) (f)
Germany ...	10,567,342(c) (Year ended 31st March, 1905)	81,137,000 (Year ended 31st March, 1905)	2,322,045 (1903)	16,349,271 (1903)	4,629,244 (1903)	361,720,000 (g)	285,014,000 (g)
Netherlands ...	1,437,236	14,199,000	400,000	10,864,356	No Returns	Metric Tons. 14,990,000 (h)	Metric Tons. 4,327,000 (h)
France ...	12,513,143	144,425,000	1,235,341 (1903)	20,104,338 (1903)	7,464,266 (1903)	185,298,000	149,247,000
Portugal ...	613,158	12,882,000 (Year ended 30th June, 1904)	113,536 (1903)	12,649,360 (1904)	1,235,489 (1904)	11,757,000 (e) (1903)	6,010,000 (e) (1903)
Spain ...	1,052,400	41,331,000	780,559	15,678,067	13,855,089 (1903)	30,145,000	32,883,000
Italy ...	4,840,000 (Year ended 30th June, 1904)	75,913,000 (Year ended 30th June, 1904)	1,044,758 (1903)	24,788,635 (1903)	11,636,070 (1903)	80,295,000 (g)	66,242,000 (g)
Austria-Hungary	2,605,266	{ Austria. 72,396,000 (1904) Hungary. 49,612,000 (1904)	{ Austria. 259,422 (1903) Hungary. 88,664 (1903)	{ Austria. 2,965,254 (1903) Hungary. 1,059,676 (1903)	{ Austria. 12,178,829 (1903) Hungary. 1,447,659 (1903)	16,438,000 (e)	15,537,000 (e)
United States (Year ended 30th June)	20,180,310	142,545,000	898,768 (i)	24,191,983 (k)	No Returns	211,440,000	298,382,000
Japan ...	2,209,586 (Year ended 31st March, 1905)	32,066,000 (r) (m) (Year ended 31st March, 1905)	1,126,908 (l)	11,289,406 (n)	No Returns	42,736,000 (m)	45,807,000 (m)

NOTE.—The above particulars with regard to Naval Expenditure have been furnished by the Admiralty. The remaining particulars have been extracted from the Official Returns of the various countries mentioned, except in the case of Russia, Spain, Austria and Hungary, for which countries the particulars relating to Revenue have been extracted from the "Bulletin de Statistique, etc.," 1904-5, published under the authority of the French Minister of Finances.

#### REMARKS.

NOTE.—The actual Naval Expenditure for any year is seldom known—never immediately—the figures given, therefore are the sums voted.

With regard to the revenue and commerce of foreign countries, in converting the foreign currencies into £'s sterling the approximate par value of the foreign money has been taken.

(a) The figures relating to the tonnage of the Mercantile Marine are given in *gross* tons in the cases of Portugal, Spain, and the United States, and in *net* tons in all other cases.

(b) The figures relating to the clearances of shipping are given in *gross* tons in the cases of Portugal and Spain, and in *net* tons in other cases. The figures for Spain and Japan include the tonnage of vessels (engaged in the Foreign Trade) calling at several ports in the course of the same voyage, the tonnage of such vessels being taken account of at each port of call.



(c) The cost of the maintenance of the forts at naval ports is included.  
 (d) The figures refer to Russia-in-Europe and the Caucasian ports of the Black Sea.

(e) Special Trade—i.e., imports for home consumption or exports of domestic produce or manufacture, as the case may be.

(f) Trade by European sea-board, including also Finland and the Black Sea littoral of Caucasia.

(g) Total imports or exports, as the case may be. Imports and exports by sea are not separately distinguished.

(h) The particulars as to *value* of trade by sea are not available.

(i) Registered for over-sea (i.e., foreign trade and whale fisheries).

(k) Exclusive of the tonnage of vessels (5,823,592 tons) engaged in the lake trade between the United States and Canada.

(l) The tonnage of Japanese vessels is the *gross tonnage* of vessels of foreign type, excluding junks, but including certain sailing vessels of half-foreign and half-Japanese type.

(m) Including Formosa.

(n) Includes the Coasting Trade between the open ports.

(p) Includes a considerable sum raised for war purposes.

(r) Normal revenue only, exclusive of revenue raised for war purposes.

H. LLEWELLYN SMITH.

Commercial, Labour, and Statistical Department,

Board of Trade,

August, 1905.

BRAZIL.—*Loss of the "Aquidaban."*—The battle-ship "Aquidaban," flying the flag of the Minister of Marine, was lying in Jacarepagua Bay, to the south of Rio Janeiro, with the cruisers "Barroso" and "Tiradentes," having on board the Commission appointed to survey the place for a military port and new dockyard, when at 10.30 p.m. on the 21st ult., from some at present unknown cause, her magazine blew up, and the battle-ship, which had on board 400 officers and men, sank in five minutes, 223 officers and men being lost. The Minister of Marine himself was on board the "Barroso," but Rear-Admiral Rodrigo Rocha, commanding the First Division, with Rear-Admirals Candido Brazil and Calheiros de Graca were among those lost in the ship.

The "Aquidaban" was an armoured battle-ship of about 5,000 tons displacement, and was built at Poplar, being launched in 1885; she was 280 feet in length, with a beam of 52 feet, and a maximum draught of 20.5 feet. She was protected by a 7 feet-wide belt of compound armour from 11 to 7 inches thick, with a central redoubt protected by 10-inch armour, her two turrets being similarly protected. Her armament consisted of four 8-inch Elswick guns, mounted in pairs in turrets, placed *en échelon*, the after turret being on the starboard side; four 4.7-inch 50-calibre guns; eighteen small Q.F. guns, and five torpedo tubes (two submerged). Her engines developed 6,201-I.H.P., giving her a speed of 15.8 knots, which, however, of recent years has been much reduced.

When the revolt of the Brazilian fleet took place in September, 1893, Admiral de Mello, who was supported by Admiral Salhanha da Gama and a number of other naval officers, seized the "Aquidaban," with several other vessels, and for some months blockaded Rio de Janeiro, the troops not having joined the rebels; but the forts at the mouth of the harbour being held by the Government troops, the ships could not get to sea, and in March, 1894, the rebellion came to an end, the leaders

escaping, while the "Aquadaban" was torpedoed by the torpedo-gunboat "Sempaio," and sank in shallow water. She was afterwards refloated, and in 1897 sent to the Vulcan Yard, Stettin, when she was practically reconstructed.

FRANCE.—*General*.—The different ships of the Northern Squadron have been at sea practising their guns in rough weather and taking rolling observations. It is reported that the battle-ship "Henri IV." has a very steady platform, never rolling more than 5°, and that consequently she can work her guns in almost any weather—a quality not possessed by several other ships in the squadron.

A design for a submarine mine dredging craft has been sent from the dockyard at Cherbourg to the Ministry of Marine for consideration. The plans are by Engineer Lacoïn, and embody the experience gained in the operations off Port Arthur.

A school of wireless telegraphy has been organised at Brest, the first course commencing on 1st January.

The transporter-bridge which was taken down at Bizerta in 1904 on completion of the tunnel under the canal, is to be re-erected at Brest, connecting the two sides of the Penfeld.

*Relative Rank of Officers in the Navy and Army*.—The Minister of Marine has appointed a Commission to consider the pay and allowances of naval officers, comparing the scale with those of corresponding ranks in the Army.

There are three rates of pay in the French Navy:—

1. Service on shore or in ships in reserve.
2. Service afloat in European waters.
3. Service afloat on distant stations.

It will be seen from the following tables that, generally speaking, the Army is better paid than the Navy:—

*Pay per Month.*

—	Captain in Army.	Lieutenant in Navy.	Difference in favour of Army.
	Francs.	Francs.	Francs.
0 to 5 years ... ..	292	270	22
5 „ 8 „ ... ..	333	300	33
8 „ 12 „ ... ..	375	330	45
above 12 years .. .	417	378	39

When abroad the difference is still more unfavourable to the Navy, the pay of the military officer when serving in the Colonies being doubled, whereas the naval officer has the same pay as when serving in a fleet in home waters, except that he receives an addition of 1 franc per day messing allowance.

*Pay per Month.*

—	Captain in Army.	Lieutenant in Navy.	Difference in favour of Army.
	Francs.	Francs.	Francs.
0 to 5 years ... ..	583	300	283
5 „ 8 „ ... ..	667	330	337
8 „ 12 „ ... ..	750	360	390
Above 12 years ... ..	833	405	428

*Armament of new Armoured Cruisers.*—An alteration of the armament of the two cruisers building, "Edgar Quinet" and "Waldeck Rousseau," has been now definitely decided on by the Minister of Marine.

As originally fixed, their armament consisted of four 194-mm. (7·6-inch) guns in pairs in turrets, and sixteen 164-mm. (6·4-inch) guns. These latter are to be changed for ten 194-mm. (7·6-inch) guns to be mounted, six in turrets and four in casemates. Each vessel will then have fourteen heavy guns of the same calibre. The unification of calibre is one great advantage, but the heavier guns in the light of recent experience will make the vessels much more formidable.

The perforation of the 164-mm. (6·4-inch) gun at 2,000 metres is 255 mm. (9·8 inches), but at the same distance the latest pattern of the 194-mm. (7·6-inch) gun can penetrate 340 mm. (13·3 inches) of Harveyized steel. The perforation and range thus being increased, enables these cruisers to fight an action at a much greater distance and to take a place in a fleet action in line of battle.

The change will not in any way delay the completion of the vessels, as they are not too far advanced for the alteration.—*Le Temps* and *Le Yacht*.

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*Précis of M. Charles Bos's Report on the Naval Estimates for 1906 (continued). Part II. The Superstructures.* — As already stated, under this heading M. Bos includes the masts and military tops, funnels, bridges, conning-towers, and wireless telegraph stations. He considers that the masts in French ships, with their enormous tops, the weight of which is considerable, are far too heavy, and that the following grave disabilities result:—"1. A want of stability due to the excessive top weight; 2. greater visibility at long distances; 3. the offering of an admirable target to the heavy guns of an enemy." M. Bos points out that large superstructures are particularly liable to destruction by heavy shell-fire, and that it is not astonishing that during the Russo-Japanese naval battles the tops in which were mounted the small anti-torpedo-boat guns (additional weight and another cause of instability) were destroyed by heavy projectiles, the result being that when the Russian battle-ships and cruisers had to repel the attacks of the torpedo-boats they were obliged to employ their large guns, their smaller ones being all out of action. In the battle of the 10th August the foremast of the "Tsarevitch" nearly came down when struck by a 12-inch shell; if it had, it would have crushed probably a hundred men, damaged the turrets and conning-tower, and jeopardised the battle-ship herself to such an extent that she might not have been able to reach Kiao-Chau.

M. Bos considers the only logical thing to do is to put the whole of the small guns, whether 4-inch, 12- or 3-pounders, grouped in batteries protected by armour, below the upper deck. Fighting tops will then become useless, and two signal masts, each carrying a range-finder and electric light, will be sufficient.

Coming next to the question of the funnels, in his opinion they are too lofty and offer too good a mark for the enemy's gunners. In the battle of the 10th August the funnels of the "Tsarevitch" and "Askold" were much damaged by fragments of shells, which found their way, many of them, down into the boiler-rooms, damaging pipes, etc. The result for the two ships was at once: 1. An insufficiency of draught; 2. Volumes



of smoke which smothered the decks and blinded the crews; 3. A tremendous consumption of coal; 4. A considerable diminution of speed—from 12 knots to 4 knots in the "Tsarevitch" and from 21 knots to 12 knots in the "Askold." An attempt was made to use forced draught, but it failed, partly because the stokers were unskilled, partly because the hatches and doors were damaged. M. Bos concludes that it is necessary to lower the height of the funnels, to increase the number of the boilers, as has been done for some time, or to be content with a very small modicum of forced draught for high speed. It will be necessary to give up forced draught with closed stokeholds and to substitute induced draught (*tirage forcé en cendrier*), as is used in the mail steamers. This system can be used at once without any closing of the hatches. Lastly, the adoption of armoured gratings for the hatchways of the funnels seems to be absolutely essential in order to prevent fragments of shells falling into the stokeholds and damaging the boilers and pipes, as happened on board the "Tsarevitch."

He thinks that in future the bridges must be reduced to a minimum both in height and size, while the conning-towers are badly designed and badly constructed. In action it is only too probable there will be confusion in the transmission of orders; moreover, the conning-towers are insufficiently protected, and must be much more heavily armoured in order to avoid what happened in the "Tsarevitch," when the conning-tower was almost completely destroyed by a 12-inch shell bursting inside it. In regard to the wireless telegraphy station, in all the new ships it must be installed below the armour deck, as in its present position it will be destroyed before the ship has been in action many minutes.

Coming to the question of the engines and screws, M. Bos states he has no important observations to make in regard to the former, as the vertical triple-expansion engines constructed in the large dockyards and by the large engineering firms give complete satisfaction.

But the question asked last year must be again repeated this: Why do we still continue to fit our large ships with three sets of engines and three screws? This system, adopted by M. Bussy, at one time Head of the Technical Section, has been subjected to much hostile criticism, and has been given up in foreign Navies, except in the German.

M. Bos quotes from the speech of Sir W. White, delivered before the Society of Civil Engineers in November, 1903, in which, after pointing out that the United States, Italy, and England have all refused to construct ships fitted with triple engines and screws, Sir William declared that "up to 40,000-H.P., twin screws give better results than three. Three sets of engines are very cumbersome and consume a large quantity of coal, much in excess of the consumption of twin-screw engines.

"Another argument of the partisans of three screws is that at certain cruising speeds, one or more of the engines can be thrown out of work, and in this way losses by engine friction, condensation, etc., would be avoided and coal economised. This is a mistake, as we have shown in our trials. First, all three engines were made of equal size, and this is still the general practice. It was intended that at low speeds only the centre engine should be at work, and that the two side screws should be disconnected and allowed to revolve. On trial, I am credibly informed, and can well believe, the 'drag' of the wing screws added so seriously

to the resistance that the power required for a given speed was from 40 to 50 per cent. greater than that required when the centre screw was stopped and the side screws worked. Obviously, under these circumstances, the centre screw also caused a 'drag,' and more power was needed than in a purely twin-screw ship."

"We have ourselves pointed out," M. Bos continues, "that in order to obtain a speed of 22 knots, our large cruisers have between 30 to 45 feet greater length than similar foreign cruisers, and are obliged to develop about a third more H.P. to do it. These enormous differences are evidently due to the shape of the hulls of our ships and the employment of three engines."

\* \* \*

"The larger number of engineers of our Navy that we have consulted condemn the triple-engine and triple-screw system, and they hold entirely with the views of Sir W. White on this question. The suppression, then, of the third set of engines and screw could be made without inconvenience.

There would then result, besides a reduction of the officer *personnel*:—

1. An economy in expense;
2. An economy of space;
3. An economy of weight;
4. An economy in fuel.

If the economies thus effected could be devoted to the armament, ammunition supply, and additional coal stowage, we should add to the power of our ships, while at the same time increasing their radius of action."

M. Bos then quotes some of the arguments advanced both for and against the triple-screw system, and points out that in the case of the new armoured cruiser "*Léon Gambetta*," whose trials are quoted by the Technical Section of the Ministry of Marine as having been extremely satisfactory, she having attained a speed of 23 knots (22 knots only having been demanded by the contract), the results attained were still very inferior to those reached by the twin-screw cruisers of the "*Drake*" type.

\* \* \*

M. Bos next proceeds to discuss at considerable length the question of the best type of boiler, and the advantages or otherwise of the small over the large-tube boilers. He points out how the small-tube boilers were first fitted to vessels of small displacement, such as destroyers and torpedo-boats, not only in France but also abroad, and that they are particularly suited to destroyers and torpedo-boats, as steam can be so rapidly and easily raised in them; but they have the disadvantage of not having a long life owing to the high combustion to which they are subjected.

Large-tube boilers were, on the other hand, installed in large ships, where they have proved very satisfactory; but in 1900 it was determined to try small-tube boilers in large ships as well, and since then a struggle between the advocates of the two systems has been going on.

The advantages and disadvantages of the two systems are thus summarised:—

*Small-tube Boilers.**Advantages.*

Facility in rapidly reaching and maintaining a very high rate of combustion up to 350 kg. (771·4 lbs) per square metre of grate surface and more.

*Disadvantages.*

Encumbrance;  
 Multiplicity in the shape and length of the tubes;  
 Necessity of the employment of high combustion;  
 Rapid wear and frequent accidents;  
 Difficulty in sweeping and maintenance;  
 Very great fatigue for the stokers;  
 Considerable expenditure of coal when steaming (due to difficulties in sweeping), and diminution in sphere of action;  
 Consequently, system costly.

*Large-tube Boilers.**Advantages.*

Less cumbersomeness, from which results the possibility of employing low rate of combustion;

Fewer tubes all of the same length and shape;

Less rapid wear and fewer accidents;

Facility in sweeping and maintenance;

Smaller consumption of coal;

An increase, when compared with the other system, in radius of action;

Consequently, system less costly.

*Disadvantages.*

The impossibility of practically exceeding the rate of combustion of 200 kg. (440 lbs.) per square metre of grate surface (a rate easily maintained by the *personnel* for a long time).

With either system, steam can be raised with great rapidity.

All these *data* have been known for a long time, and the reports of commandants of ships fitted with small-tube boilers fully confirm them.

The Council of Works was formally opposed to the employment of small-tube boilers in large ships, and protested when, in 1895-1896, it was decided to fit them to the large cruisers "*Jurien de la Gravière*," "*Jeanne d'Arc*," and "*Montcalm*"; but in 1900 they somewhat changed their view, and reported that from the technical point of view, small-tube boilers might for the time be fitted to large ships. It was therefore through that decision the armoured cruiser "*Jules Ferry*," of the 1900 programme, has been fitted with small-tube boilers, but she is not yet in commission.

This decision of the Council disquieted the technicians. The Chief of the General Staff, in his evidence on 7th December, 1904, before the Extra-Parliamentary Committee on the Navy, quoted a passage in the Report of Engineer-in-Chief Maurice for 1900:—

"Small-tube boilers have not yet been practically tried in large ships, but from the numerous repairs which it has been necessary to make in ships of the fleet which have come under my notice, and the trouble they give in small ships, it is to be hoped the Navy will not



have to regret having entered on the path of fitting large ships with them."

M. Bos then refers to the unfavourable results obtained in the "Jeanne d'Arc," "Chateaurenault," "Montcalm," and "Jurien de la Gravière," particularly in the first-named ship, which, although designed for a speed of 23 knots, has never been able to exceed 21·7 knots; and he comes to the same conclusions as were arrived at by the late Minister of Marine, that both from the fighting as from the economical point of view, the advantages are enormously on the side of the large-tube boilers, which is also borne out by the fact that the large-tube boilers have been adopted in the English, Japanese, Italian, and United States Navies.—*Rapport du Budget Général de l'Exercice, 1906 (Ministère de la Marine).*

(To be continued.)

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UNITED STATES.—*The New Turbine Torpedo of the United States Navy.*—It is always difficult to ascertain just what other Navies are doing in torpedo work, because special secrecy is maintained with regard to what is still considered to be one of the deadliest forms of naval warfare; but the new turbine torpedo, known as the Bliss-Leavitt model, which has recently been adopted by the United States Government, furnishes the American Navy with what is probably the speediest and most effective weapon of the torpedo type in existence.

The new weapon conforms in its external appearance and in the leading features of its internal sub-division and method of control to the Whitehead torpedo; but in size, power, speed, range, and accuracy it far surpasses it. The Whitehead of the standard type as used in the United States Navy has a speed of 28 knots at a range of about 1,200 yards, and about 22 knots at 2,000 yards. The new torpedo has a range, guaranteed by contract, of 3,500 yards, and its speed is 28 knots at this range and 36 knots at 1,200 yards range. The United States Government has been so well satisfied with the new weapon that contracts amounting to several millions of dollars have been awarded for the construction of this type of torpedo, which, from this time on, will be the only type used in the Navy. Two sizes are being made, one, 18 inches in diameter, which can be fired from the existing 18-inch tubes on our battle-ships and torpedo-boats; and the other, a much larger and more powerful torpedo, 21 inches in diameter. The 18-inch torpedo of the new type has an effective range of 2,000 yards and a speed of 33 knots, and 100 of this type have been contracted for, while of the larger 21-inch, 300 are called for by the contract. Thirty of the 18-inch and two of the 21-inch have been delivered at the torpedo station at Newport, where officers and men are instructed in torpedo work under probable war conditions.

The new 21-inch type consists essentially of three sections. First, the head containing the explosive; then the central flask, in which the compressed air for driving the torpedo is stored; and last, the after body, which contains the turbine for operating the propellers, the immersion chamber for regulating the depth of the torpedo beneath the surface of the water, and the gyroscope gear, by which the torpedo is automatically steered and maintained on its proper line of flight.

The head is a beautiful specimen of hammered sheet-metal work. It is formed in two halves, divided longitudinally, the edges of the

joints being made with a square, saw-tooth form and brazed together. The war head, which, as distinguished from the practice head, is used only in actual hostilities, is loaded with 132 lbs. of gun-cotton, containing 25 per cent. of moisture. The gun cotton is packed in disks through the centre of which is a hole that contains a cartridge primer of dry gun cotton for detonating the charge. The small propeller carried at the extreme point of the torpedo is for preventing premature explosion, which it does by locking the firing pin. When the torpedo enters the water, the revolution of the propellers releases a sleeve, which uncovers the firing pin, putting it in position to strike the detonating primer the instant that the torpedo finds its mark. The central body or shell of the torpedo occupies a little more than one-half the total length. It is made of a special forged steel of an elastic limit of at least 90,000 lbs. The rough forging is over  $1\frac{1}{4}$  inches in thickness, and it is bored and turned down in the lathe to a finished thickness of  $\frac{7}{16}$ th of an inch. The "flask," as the central portion or air chamber is called, is to the turbine engine of the torpedo what the boiler is to the reciprocating engine of a steam-ship. It is charged at an initial pressure of 2,225 lbs. to the square inch.

The after portion of the torpedo, or the tail, contains in its forward end the wonderful little torpedo engine which drives the propeller. It is of the Curtis compound type, and consists of a central row of fixed blades and two wheels, one  $11\frac{1}{8}$  inches and the other nearly 12 inches in diameter. There are two propellers, adapted to run in opposite directions, one being fixed upon the central shaft and the other upon an enveloping outer shaft. The turbine runs at a speed of about 10,000 revolutions per minute, which is reduced by suitable gears to a speed of 900 revolutions for the propellers. At this speed the turbine developed about 160-H.P., the corresponding speed being 40 knots an hour, although the contract speed required by the Government is only 36 knots.

Immediately astern of the compartment containing the turbine is the wonderfully ingenious and delicate apparatus for maintaining the proper depth of immersion and for steering. The regulation of the depth is effected by means of a vertical diaphragm, on one side of which is the water, which is allowed to enter by holes provided in the shell for that purpose, and on the other side a series of coiled springs, the water pressing against the diaphragm on one side, and the springs pressing the diaphragm in the opposite direction on the other side. The springs are adjusted so that their pressure shall exactly equal the pressure of the water at the given depth at which the torpedo is to travel. If the torpedo descends below that depth, the water pressure, overcoming the spring pressure, pushes the diaphragm inwardly. If the torpedo is above the desired depth, the springs overcome the water pressure and push the diaphragm outwardly. The centre of the diaphragm is attached to certain levers and rods, which pass through the tail of the torpedo and act on a pair of horizontal rudders, throwing them up or down, according as the diaphragm is pressed inward or outward, and thus correcting the deviation of the torpedo from the horizontal plane at which it is designed to travel.

Astern of the immersion chamber is located the steering gear. This is a modification of the principle employed in the Obry gear, and depends upon the well-known tendency of a gyroscope to maintain itself in its original plane of rotation. The Obry gear was given its high velocity by means of a coiled spring, which was released at the moment of firing.

In the Bliss-Leavitt torpedo the spring is dispensed with, and a small reaction turbine is used in its place. This consists of a disk with a series of discharge orifices arranged tangentially to the circumference, which are fed with compressed air. The air rushing from the orifices reacts on the disc, and turns it exactly in the same way as did the pipes on Hero's original turbine of two thousand years ago. If the torpedo tends to deflect to the right or to the left, this little gyroscope turbine maintains its original position, and its angular motion with regard to the torpedo (or, to speak more accurately, the angular motion of the torpedo about the gyroscope) serves to actuate a very ingenious mechanism, which turns the vertical rudders to the right or left, and corrects the deviation. The turbo-gyroscope is driven at a speed of 18,000 revolutions per minute.

Of course, the most interesting feature in the building of the new torpedoes is the construction of the wonderfully efficient little turbine engine that drives them. The Bliss Company has designed a very effective machine for cutting the buckets of the turbine wheels. The whole wheel is made out of a single disc of steel, the buckets being integral with the wheel. The machine for cutting the buckets resembles a double-spindle lathe. The work is held in a horizontal position on the tail stock, and two cutters alternately advance toward the rim of the wheel, make a cut of the desired curvature and recede, leaving the wheel free to revolve sufficiently to bring the next bucket into position for another cut. One cutter operates on one wall of the bucket, and the other on the opposite wall. The result is a wheel of perfect form, carrying a highly finished surface. It should be mentioned here that the remarkably high efficiency in speed and range of the new torpedo is due to the use of a superheating process applied to the compressed air. This consists of a flame which is automatically ignited the instant the torpedo is launched from the tube, and which burns during the entire run. The compressed-air flask contains a burner or pot, the flame of which is fed automatically with alcohol. The flow is so regulated that an even and steady temperature is maintained in the air flask.

During the past few months the company has been carrying out a series of very exhaustive tests on board the proving steamer "Sarah Thorpe," which is anchored in the secluded waters of Noyak Bay, near Sag Harbour, Long Island. Here each torpedo is tested and brought up to the required standard of efficiency in speed and range before being turned over to the torpedo station at Newport. The Navy Department assigned a lieutenant and several gunners to witness and record the run of each torpedo. The target is a submerged net 100 feet in length, which is located 1,200 yards from the point of fire. The torpedo breaks through the meshes, and after each shot the net is hauled up and the exact striking point is located by the tear in the net. The maximum deviation in the range allowed is 15 feet to the right and left of the bull's eye, and 30 inches above and below at 5 feet of depth. Each torpedo must come within these measurements in three out of five trial runs in order to be accepted. The average speed of the run is 36 knots, and the time run is about 60½ seconds for 1,200 yards. The cost of the 18-inch torpedo is about 5,000 dollars, and the 21-inch torpedo costs proportionately more.—*Scientific American*.



## MILITARY NOTES.

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HOME.—The following are the principal appointments which have been made :—

The King has been pleased by Letters Patent under the Great Seal bearing date 19th December, 1905, to appoint :—

The Right Honourable Richard Burdon Haldane, Lieut.-General the Honourable Sir Neville Gerald Lyttelton, K.C.B., Lieut.-General Charles Whittingham Horsley Douglas, C.B., Lieut.-General Sir William Gustavus Nicholson, K.C.B., Major-General Sir James Wolfe Murray, K.C.B., Newton, Earl of Portsmouth, and Thomas Ryburn Buchanan, Esq., to be His Majesty's Army Council.

General—General C. J. McMahon (late Madras) to be Colonel-Commandant, Royal Artillery.

Major-Generals—Major-General R. Auld, C.B., from a Director at Headquarters, to Command an Infantry Brigade. Major-General Sir O'M. Creagh, V.C., K.C.B., I.A., Commanding 5th (Mhow) Division, to be a Lieut.-General in the Army. Surgeon-General L. D. Spencer, M.D., C.B., ret. I.M.S., to be Hon. Surgeon to the King.

Colonels—Colonel F. Hammersley, an A.A.G., is granted the temporary rank of Brigadier-General. Colonel E. W. Herbert, C.B., Commanding the Rifle Depôt, to be also Colonel in Charge of Records, Rifle Grouped Regimental District. Colonel F. Rainsford-Hannay, from an Assistant Director at Headquarters, to be a Chief Engineer. Colonel A. J. A. Wright, C.B., from a Colonel in Charge of Infantry Records, to be a Brigadier-General, to Command a Grouped Regimental District, and is granted the temporary rank of Brigadier-General whilst so employed. Lieut.-Colonel and Brevet Colonel L. B. F. Friend, from h.p., to be an Assistant-Director at Headquarters, and to be granted the substantive rank of Colonel in the Army. Colonel W. B. Slaughter, from the R.A.M.C., to be Surgeon-General. Colonel W. S. Pratt, M.B., from the R.A.M.C., to be Surgeon-General.

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GERMANY.—*The New Musketry Regulations.*—In a general way the text of the new Musketry Regulations is similar to that of its predecessor of 1889. It must be remembered that the German Army has at the present time two rifles actually in use—the 1888 and 1898 models. The regulations have therefore had to take this into account; the gradual disappearance of the former rifle has necessitated special regulations, which are printed in italics in Roman type, and thus at once catch the eye. The chapters which have undergone the most important alterations are those regarding instruction shooting, and especially as regards battle-firing.

Chapter I., on the theory of musketry, is greatly simplified. "The man," it says, "should have a knowledge of the theory of musketry in order that he may obtain a maximum effect from his weapon. There is no necessity for his being able to repeat theoretic explanations; but he must be made to understand what is of importance for him to know."

Chapter II., as in the former regulations, deals with targets, *matériel*, and ammunition.

The *Ringscheibe* (targets with circular bullseye), employed for instruction in firing, alone remains unchanged. All the other targets have been altered with the object of presenting to the marksman objectives as closely resembling as possible those met with in war. As a rule the height of all the figure targets has been decreased, so as to take into account the tendency to get under cover; the greater flatness of the trajectory, on the other hand, militates against causing these alterations to make the shooting too difficult. Thus: the head target (*Kopfscheibe*) has been reduced from .35 to .30 metre (13.77 to 11.81 inches); the head and shoulders target (*Brustscheibe*) has been reduced to .50 metre (19.68 inches); the kneeling target (*Kniescheibe*) has been reduced from 1.20 metres to .80 metre (47.2 to 31.49 inches); the whole-figure target (*Figurscheibe*) has been reduced from 1.70 metres to 1.40 metres (66.92 to 55.11 inches). The old aiming trestles have been done away with, the new regulations ordering the exclusive use of sandbags for firing from a rest.

Companies at full strength get 28,000 cartridges a year, weak companies 25,000, of which 11,200 and 10,000 respectively are for battle and instruction firing, 500 for officers, 1,300 or 1,200 for inspections, and the remainder for instruction, rifle meetings, and for adjustment of weapons.

Chapter III. contains hardly any changes, and is devoted to the instruction *personnel*.

Chapter IV., which in the former regulations was entitled "Progress of Instruction," is now called "Musketry Training," and lays down a progressive, rational method of instruction, taking into account the personal qualities of the soldier. At the same time, the regulations especially insist that musketry instruction must be carried out with a view to war, even before the end of the training. They allow the greatest possible initiative as regards the methods of instruction: "The soldier should be taught by a careful and thorough training to recognise all the advantages of ground at a rapid glance, and to make use of them both for firing under the best possible conditions and for taking cover."

Chapter V. is devoted to judging distance, and differs slightly from the former regulations; it is simplified. Taking into account the greater precision of weapons, the new regulations increase the range of the judging-distance practices, viz., to 800 metres for close ranges; to 1,200 metres for medium ranges; and to over 1,200 metres for long ranges.

Chapter VI., entitled "School Firing," contains, under the heading "Sundries," certain innovations of a nature to favour the practical teaching of musketry. Thus, the order limiting the number of extra cartridges to be distributed amongst bad shots has been abolished; according to the new regulations the instructor has in this regard the greatest liberty of action. This chapter lays down that before the commencement of class firing the men of all the classes should fire a few shots at 150 metres against a circular target and sitting at a table for aiming. The object of this regulation is to teach the man to know the peculiarities of his weapon. The conditions required of all classes have been considerably modified. Firing at 500 and 600 metres has been abolished; the maximum distance for the school firing is 400 metres. The number of exercises has been reduced.

Chapter VII. on musketry prizes contains no changes, with the exception that at rifle meetings the firing is no longer carried out standing, but lying down.

Chapter VIII., regarding battle firing, is the one which has undergone the most important changes. Individual firing is limited to short ranges up to 800 metres. The different kinds of fire laid down are:—1. Preparatory Firing (*Vorbereitungsschiessen*); 2. Group Firing (*Gruppenschiessen*); 3. Section Firing (*Zugschiessen*); and 4. Firing of larger units (*Schiessen in grösseren Verbänden*). As regards the conduct of fire, the regulations express themselves as follows:—"It would be contrary to the characteristics of modern infantry fighting to set a limit to the rôle to be played by every commander. The thorough training in peace time should guarantee, on the day of battle, the co-operation of all in one common object. The commander should not permit himself to be distracted from his high mission by occupying himself with details. Such a training should be given to an inferior commander as will render him capable of acting with initiative and decision, and to take upon himself, on his own responsibility, to emerge from his sphere of command when the situation of the battle demands it." Speaking of the opening of fire, the regulations specially lay down that "the fact of opening fire too soon reveals a lack of calmness and self-confidence," and that "inefficacious fire increases the confidence of the enemy." As regards the conduct of fire, the regulations insist on the necessity of exercising the greatest care in the transmission of orders. The subject of the selection of objective—a question frequently discussed—as to whether sights should be altered in firing on hostile reinforcements, is settled in the following phrase:—"It must not be forgotten that reinforcements for the skirmishing line must pass over a zone covered in its entire depth by a hail of bullets."

The regulations recommend an attentive observation of the efficacy of the fire. "Commanders should judiciously select their positions with a view to exercising the best possible influence on the men. This *immediate* action of the commander, however, is less powerful and easier to carry out than that *moral* influence and *example* which should, under all circumstances, give a man calmness, confidence, firmness, and *sang-froid*. These are results that can only be obtained by careful training in peace time."

The rules with regard to the execution of battle-firing are, in part, new. In order that the conditions under which these battle practices should as closely as possible resemble reality, the regulations recommend the use of *Fallscheiben*, or falling targets, and so to take into consideration the efficacy of the enemy's fire by selecting a certain number of men to represent casualties. "To give more interest to battle-firing," say the regulations, "a species of rifle meetings may be organised between two units firing respectively on their own objectives. The following procedure may be adhered to: each time a target is hit by the men of one of the units and falls, a man of the other unit can be put out of action, and *vice-versâ*."

It is strictly laid down that officers and men must act as in war, and must never endeavour to obtain a higher percentage by making use of methods inadmissible in reality. Group firing accustoms the skirmishers to fire discipline. "This species of fire," says the regulations, "should be carried out as carefully as possible, and in accordance with the varying phases of the battle on long lines of skirmishers; it is the action of the subordinate commanders which can make itself most directly felt."

The regulations insist on the representation of situations in isolated actions, especially in action against infantry, and add that even in these exercises the regular technical details of firing, such as loading, adjusting the sights, aiming, etc., must never be neglected.



The *Militär-Wochenblatt* gives its general appreciation of the new regulations in the following terms:—"They entirely fulfil all modern requirements as regards the thorough instruction of the individual marksman, as well as the training for war of both officers and men; they will be of the greatest possible advantage to our infantry, and will certainly contribute and add still further to the combative value of that arm."—*La France Militaire*, *Revue du Cercle Militaire*, and *Militär-Wochenblatt*.

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JAPAN.—*How the Japanese Fight*.—Lieut.-Colonel H. A. Reed, A.C., U.S.A., has translated from the *Memorial de Artilleria* of May, 1905, for the Second Division, General Staff, the following interesting observations by Lieut.-Colonel Masahito Kasoi Mura, of the Japanese General Staff, Tokio:—

"We, the Japanese, found in the three great Continental Powers of Europe—Russia, Germany, and France—three different grand types of national character. The Russian is naturally inclined to the use of the bayonet, and still considers the rifle as only a handle for it, although in actual warfare not more than seven per cent. of the wounds are made by it. France, notwithstanding its impetuosity, retains a tendency toward the defensive, with very perfected technical means, which its new regulations show in spite of their aggressive appearance. The mowing fire by which the artillery hurls its gigantic masses of iron is executed blindfold. Germany, finally, is by nature a combatant imbued with the offensive, but is strictly observant of method, so its mode of action might be defined as reflected audacity. This should be to us the most congenial mode because of our disposition. The events of 1870 led us to elect the Germans as instructors; very soon we recognised the close resemblance of our natures.

Savages have no technique, neither are they possessed of nervousness. Civilisation assures the means, but also weakens the physical capacity for resistance. But we, the Japanese, have the advantage of technique without having nerves. With us everything is by rule, which gave us at the beginning of the war the reputation of being absurdly pedantic.

In our methods of attack we believe we have advanced a little beyond European methods by the application of field fortification to the attack. This does not serve us for defence, but assures us a point of rest during the forward movement. On the skirmish, or firing line, one fires while the other digs—a rifleman is immediately followed by a sapper. We work in a manner distinct from that of other Armies. Our agile soldiers dig while lying down. They offer no target to the enemy, and excavate without being seen in the most advanced positions; the succeeding files find a shelter already made. Since these fortifications exist at each stage of the attack, we can dispense with strong reserves. In Germany for an attack only the reserves fortify; work with spade is only done at night when men can work standing, and only as an auxiliary means of defence. As we dig while lying down, we can entrench ourselves during the daytime, and an enemy attacking our front, although he may be superior to us, can do nothing to us without artillery.

Movements to the rear are executed at night, as well as grand operations against the enemy. In time of peace battle exercises are had at night in great silence with the aid of signals made by an officer with a pocket dark lantern always ready for use. All this constitutes only the means to attain the object, and this object is forward until the enemy is overcome. Our technique must sustain the attack, but never leads us

to the defensive. According to this principle we follow the German system of artillery fighting, not the French; the batteries are united in masses and fire normally, but they will not uselessly waste ammunition against a supposed enemy spread over a large space, and that has not been discovered. Rather than fire at woods and covered places we prefer to change position.

During the present campaign we have never been servile imitators, and in this ours resembles the German system.

From a moral point of view the highest ideals sustain the fighting forces of our country. Each soldier up to the last moment knows that he is fighting for a grand idea, and this makes him invincible. It is the enthusiasm for the Emperor which animates the entire Army. In France, in 1870, there was no monarch of the national race, but the descendant of an adventitious person who had been preceded by two republican periods. In Russia the institution of the highest imperialism is almost sanctified, but the monarch is of slight consideration, since occasionally he has been assassinated. In Germany we find sentiments analogous to our own. But in our country this sentiment is still more intense, because we honour in the grandson the great deeds of the grandfather. We are not a people without a history as is believed in Europe. We are the aristocrats of Asia, and our ideas are those of the days of chivalry."

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*Change of Uniform of the Army.*—As a result of the experiences of the late war, the field uniform of the Japanese Army has been radically altered. As is known, it was of a dark colour—almost black—for all arms, with trouser stripes distinguishing the various arms, with the exception of the cavalry and the gendarmerie, who wore madder-red trousers with green or black stripes respectively.

In future all the campaigning clothing for all the officers and men will, without exception, be of khaki colour—cloth for winter and linen for summer wear. The form of the cap, which resembled the German, but slightly higher, has also been altered, and is now very like the Russian. The officers' cap is the same as that of the men, without any distinction of rank. The band round it, for the entire Army, is red. The Imperial Guard, which has hitherto been distinguished by a red band round the cap (it was yellow for the Line), will in future wear an ornament representing cherry leaves and blossom on the front of the band, under the star, which is the distinctive badge of the Japanese Army. Trouser stripes are done away with and are replaced, for all arms, by a red piping. The linen trousers have no piping. The buttons are of yellow metal, plain and dull, for the combatant, and of white metal for the non-combatant branches.

The branches or departments of the Service are distinguished from one another by the colour of the collar-tab, which is of black cloth for the gendarmerie, red for the infantry, light green for the cavalry, yellow for the artillery, claret colour for the engineers, blue for the transport, grey-brown for the commissariat, and dark green for the medical and veterinary departments. All corps (regiments, or battalions and companies forming corps) of the Regular Army will wear Arabic numerals on the shoulder-straps; the *Kobi* (Army of Reserve) Roman numerals, and the *Kokumin* (Territorial Army) Roman numerals on the right and Arabic numerals on the left shoulder-strap. The numerals are of yellow metal for combatants and of white metal for non-combatants. There is no difference between the clothing of officers and men except in

regard to the number and disposition of the pockets. For the present, at all events, the officers will retain their full dress and undress uniforms. For daily duty the wearing of out-of-date uniform, in every kind of combination, will be permitted, until worn out, which will cause a great diversity in uniform for some time.

The cloth used by the Army is made in a special manufactory of the War Department, situated at Senji, on the outskirts of Tokio. The linen, for the most part, is imported from Australia.

It is in consequence of the experiences of active service that the definite selection of khaki colour was decided upon. Leaving for the theatre of war in their dark-coloured uniform, the troops of the Manchurian Army wore in 1904, in summer, clothing of khaki linen. The cap was provided with a cover and a neck-curtain of the same shade. From the commencement of the winter of 1904-05 they were given a khaki-coloured cloak with a goatskin collar, and a sheepskin, the outer lining of which was of the same colour. In many corps in the spring and autumn of 1904 a second large roomy linen jumper was worn over the black one, and over the black trousers a second pair of khaki ones. In the spring of 1905 an issue was made to the men of a species of dust-coat of khaki linen, which hid their dark uniforms. This garment was split slightly up the back and was fastened in front by khaki-coloured bone buttons, and had two outer pockets. The last war proved that dark colours could be distinguished at long distances, whilst under almost all conditions of light grey, khaki, and even red (especially if not worn in the cap or on the upper part of the body) blend with surrounding objects. The Japanese cavalry and gendarmerie wear the same madder-red pantaloons as the French cavalry. On foot, wearing their khaki jumper and red pantaloons, they were not more distinguishable at a distance than their comrades clothed entirely in khaki. It should also be noted that in Manchuria, in consequence of the nature of the soil and of the cultivation, the country, for the greater part of the year, wore a duller, more yellow aspect, more similar to khaki colour than would be found in European temperate regions.

With the Russians, at the commencement, nearly all the officers wore white jumpers, which could be seen at great distances; but the dull grey uniforms of their men was not very distinguishable, not more so, at least, than the Japanese khaki. Unfortunately for them the great height of the soldiers and their great awkwardness, which was still further increased by the weight of their equipment, prevented them from profiting as much as the Japanese from ground cover.

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*Repatriation of the Field Army* —Orders for the return to Japan of the Field Army were issued on the day of the ratification of the Treaty of Peace, viz., on the 14th October last. The movements, for which everything had been prepared since the conclusion of the Portsmouth negotiations, were due to commence on the 16th October. The points selected for embarkation are Dalny, Antung, at the mouth of the Yalu, and Gensan, in Korea.

A commencement has been made by repatriating in the order of their arrival on the theatre of war, the formations of the *Kobi* (Army of Reserve) and the men of the *Kokumin* (Territorial Army) who served in various capacities in Manchuria or Korea. The men of the *Yobi* (men of the Army Reserve), will then be brought back, whose retention with the colours may not be considered indispensable; finally, the units of the



Regular Army will be withdrawn whose return will coincide, as far as possible, with the order of their departure from Japan. Thus the 12th Division, which was the first to disembark in Korea in February, 1904, will also be the first to return to its home quarters. It is calculated that within 6 months—that is to say, by April, 1906—the whole of the Japanese Army will be repatriated.

For the evacuation of the bulk of the Army of Manchuria 13 trains a day to Dalny have been provided. They will, as a rule, be reserved for dismounted branches of the Service and for the Staffs. The cavalry, artillery, and transport will march to the point of embarkation. The points for disembarkation in Japan will be Ujina, port of Hiroshima, Moji, in the island of Kin-shin, and Kobe. Huge quarantine establishments have been organised near all these places. After the departure of Marshal Oyama, General Kodama, his Chief of Staff, will remain in Manchuria to supervise the dislocation.

The withdrawal of the Field Army completed, 2 divisions will be maintained in Manchuria to garrison Port Arthur, to occupy the Liao-tung Peninsula, and to guard that portion of the East Chinese Railway taken over by Japan. These will be the 14th and 16th Divisions, which were raised during the war. The corps of occupation will also consist of two newly-formed divisions, the 13th and 15th. It is probable that in addition to the four already newly raised divisions, the plan for the reorganisation of the military forces of Japan will include the formation of three other divisions, which, with that of the Guards, will bring up to twenty the number of the divisions of the Mikado's Army, which, before the war, only consisted of thirteen.

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*Tent Canvas.*—The tent canvas is made of a mixture of hemp and cotton; it is square, each side being 4 feet 10 inches long, and khaki in colour. At the four corners are placed large aluminium eyelet-holes to receive the ends of the tent poles, which are of oak, and consist of three pieces each. On the edges round each of the sides are a certain number of smaller eyelet-holes; on each canvas square, two sides next to one another, a piece of cord is fixed so that the canvas squares may be laced together. Each portion of the tent pole weighs about  $5\frac{1}{2}$  ozs., the whole tent pole complete weighing about 17 ozs. The tent pegs, which are also of oak, are 13 inches long, weigh about  $1\frac{1}{2}$  ozs., and are pointed at one end.

As a rule each man is provided with one canvas square, two portions of the tent pole, two tent pegs, and a piece of cord, which represent a total weight of about 3 lbs. The pole and pegs are wrapped in the tent canvas, which, rolled to the length of the portions of the tent poles, is placed on the top of the valise, outside and against the great-coat. When the valise is left behind, the tent canvas, rolled round the great-coat, is worn in banderole. In the mounted branches the tent canvas and its accessories are tied to the cantle of the saddle, above the great-coat. The canvas square may also be used by the men as a waterproof covering over their other clothing.

Very commodious and very complete shelters may be constructed for 1, 2, 3, 4, and 6 men from the same number of canvas squares. The best shelter is that for 6 men; the end is made of bundles of straw or dried grass, held together by branches; one end is used as an entrance. Shelter may also be obtained for 35 men by using 24 canvases and 8 supports, 8 of the canvases forming the roof and the others the sides of the shelter. A circular tent for 30 to 40 men may also be made of 24 canvases by making the exterior wall of earth or snow about a foot

wide and about 5 feet in height. The cover requires 15 canvases, the remaining canvases being spread on the ground. As a rule the Japanese soldier is very dexterous at rapidly improvising shelters by means of these canvases and any branches or sticks they may pick up.—*La France* these canvases and any branches or sticks they may pick up.—*U.S. Army & Navy Journal*, *Revue Militaire des Armées Etrangères*, and *La France Militaire*.

RUSSIA.—*The Training and Education of the Army*.—The General Commanding the Varsovie Military District has recently issued an order giving advice and laying down strict regulations on the methods of training and education to be employed. The following is a summary of the same:—

“The war with Japan,” the order commences, “has confirmed the enormous importance of the *individual* preparation of soldiers of all ranks. Whilst rendering justice to our officers and soldiers, who very frequently during this war displayed distinguished bravery, and thoroughly fulfilled their duty, it is impossible but to agree that the individual preparation of officers and men showed very many defects.” To obviate them it will be necessary to pay particular attention both to the individual training of officers, non-commissioned officers and men, and to the collective training of the troops.

#### *Individual Training.*

a. *Officers*.—It is inadmissible that officers should confine themselves to the study of regulations alone. It is indispensable that they should make themselves thoroughly acquainted with new ideas relative to the tactics of the three arms, and with a knowledge of new technical methods. Corps commanders, responsible for the instruction of officers, should recommend to them the perusal of valuable military works, make them lecture on these works, and by discussion provoke a wide exchange of ideas with regard to them. These lectures, to be organised in every garrison, will be given by infantry, cavalry, and artillery officers, according to the subject dealt with; if necessary, officers will be detached to small garrisons for that object. Tactics of the three arms will be expounded by Staff officers. The special lessons should be drawn from the events of the recent war. Advantage will be taken of the winter to carry out tactical schemes on a map and on the ground by endeavouring to show the inevitable differences between a purely theoretical study on a map and work on the ground. Routine, apathy, and slackness, too often customary with these works, must be stamped out; this is the only way to make them of real value. The object of all instruction for officers should be to increase their confidence in themselves, and to render them fit to take the initiative.

b. *Non-commissioned Officers*.—The greatest care should be taken in the training and education of the non-commissioned officer, “as he is the first assistant and the substitute of the officer; he should by his training be elevated above the level of the men, and be made, in this regard, as near as possible to the officer. Special attention should be paid to the development of his intellect and of his character. They should, above all, be accustomed not to fear responsibility. I think that a non-commissioned officer should be more readily forgiven for small deficiencies in the knowledge of his duty than for indecision; the latter is more frequently the result of a fear of punishment.”

c. *The Men*.—Winter should be devoted to the individual training of the soldier. All the physical exercises, except when absolutely im-



possible, should be carried out in the open air; gymnastics should enable the men to surmount all the various sorts of obstacles they may meet with in action. Account must be taken of the want of general instruction amongst the people themselves, and every effort made to rouse the intelligence of the recruits. "The chief object is not so much to teach them to read and write, for it is not a question of making clerks of them, but shrewd, smart fighting men, who do not lose their heads. Instruction in reading and writing is only a means. Constant educational chats by commanders of units and an intimate contact between the officer and each of his men may well serve to increase the intelligence of our soldiers." Field officers should supervise the instruction given to companies, squadrons or batteries, but should not interfere with their progress by useless revisions. Old soldiers should not be made to recommence what they have already learnt. Every fresh year of service should bring fresh knowledge with it. Special attention should be paid by all the commissioned ranks to the reduction to its utmost extent of employed men; preparation for war should come before administration. Employed men should be obliged to attend frequent drills.

*Preparation of the Troop, Company, etc.*

During the winter all portions of service in the field and battle instruction will be carried on out of doors. These exercises will take place at least once a week. By gradually training the men to the work, their powers of endurance will be increased. All troops in the district, without exception, will carry out day and night marches. In the infantry everyone will take part in them, including recruits kept separate, with the exception of employed men who are absolutely indispensable; in the cavalry and horse artillery, as many men as the number of horses will permit of, all the youngest remount horses being put on one side; in the field artillery, 4 guns and 4 ammunition wagons per battery will be horsed. Every march will be part of a tactical scheme, and will conclude with a manœuvre against a skeleton enemy, or against another force. The length of the marches will be progressively increased, so that, at the end of the winter, infantry will be in a fit state to make regulation marches without fatigue. Reconnaissance and scouting in every form, taking into consideration the practice of the last war, will be carried out during these marches.

In the cavalry, long-distance rides should be organised, profiting in this respect by the manœuvres of neighbouring garrisons. "In addition to the marches, to accustom the men to a life in the open air in severe weather, I order all the troops to carry out two manœuvres of two days' duration, spending one night in bivouac." The choice of the time for these manœuvres is left to the officers who must direct them. As far as possible all three arms will be combined. It is even stated that during these manœuvres the men, instead of receiving bread, will be issued flour, and will themselves cook a species of damper.

In the cavalry at least two regimental manœuvres a month will be carried out, or if the regiment has detached squadrons, with all those that can be got together; detached squadrons will manœuvre singly or by twos under the same conditions. All troops in the district should practice field firing in the snow, so as to accustom the men to judge distance and to the appearance of objects in that sort of weather. Every manœuvre will be followed by a critique, and commanders of army corps and divisions will make written observations on those they have taken part in. They will send in a report at the end of each month of the



manœuvres carried out during that month. They will forward the scheme for the two days' manœuvres in advance to the district staff, and will advise it by telegraph the day before that fixed for the manœuvres. The order concludes by referring to the checks in the Russo-Japanese War, which should excite in the entire Army a determination to devote all its energies to work to wipe out the defects that caused them.—*La France Militaire*.

UNITED STATES. — *Report of Chief of Staff, U.S.A.* — Lieut.-General Adna R. Chaffee, Chief of Staff, U.S.A., in his annual report declares in plain terms that the Army is under-officered for the duties required of it in time of peace, and that in time of war it would be in a decidedly crippled condition for that reason. As a modest measure of relief he suggests that Congress be requested to authorise promotions and appointments to fill vacancies due to the forty-two officers below the rank of general serving on the General Staff, sixty-five detailed to the Military Academy, thirty-four for recruiting service, and two detailed to the Bureau of Insular Affairs of the War Department.

There are twenty-one officers on detached service with the Philippine Scouts, eighteen with the Philippine Government, three with the Porto Rican Regiment, and nine with the Panama Canal Commission, all of whom are performing duties prescribed by law, and whose services will be lost to the Army for many years to come. General Chaffee does not include these in his recommendation as to filling places by applying the law of the detail system to them, but it is his opinion that the efficiency of the troops would be improved if those details could be filled as is done in the case of officers detailed to the various staff departments. Officers much above sixty years of age, officers who have been many years separated from the Army, and officers of colonel and general rank are not suitable for recruiting service for obvious reasons. Some others are indisposed to serve unless assigned to station or section of the country they wish, which is not always possible. There were twenty retired officers doing recruiting duty on 30th June; on 1st November, 1905, there were twenty-eight, which seems to be near the maximum of utilisation under present conditions of availability.

General Chaffee maintains that the experience of the last year has abundantly demonstrated the value of the General Staff, and as his present report will be his last as Chief of Staff, he discusses at some length the work it has accomplished. He explains that for administrative purposes the General Staff has been organised into three divisions. The first division is charged more particularly with administrative matters; the second division with matters pertaining to information; the third division has charge of military education and matters of a more or less technical nature, and its entire *personnel* is also a part of the War College. This statement is supplemented with a general statement of the work performed by each division during the year.

It is pointed out that since the publication of General Orders which authorised discharge, for the convenience of the Government, of men belonging to organisations selected for service in the Philippines, who have less than two years and three months to serve (non-commissioned officers excepted), and their immediate re-enlistment, if the men so desire, with transfer to other commands in the United States as an alternative, regiments have departed prepared for service in the islands for the allotted

time (two years), and return to the United States without material reduction in numbers due to discharge for expiration of service. The result is that the efficiency of organisation for service in the islands, so far as constancy of numbers during the tour affects the question, has been decidedly improved under the operations of the General Orders referred to. The length of the tour of service (two years), says General Chaffee, cannot be advantageously extended with men enlisting for but three years.

It is General Chaffee's opinion that the present system of professional education excels all past effort in the subject. Its chief merit and change is progression and broadening of the curriculum. Officers are no longer required to go over and over the same subject for years. On the contrary, they have only to prove their proficiency in a subject to entitle them to a certificate of qualification, which will excuse them from repetition in any Garrison or Service School; and as these certificates are accumulated year by year they become the best possible evidence of an officer's mental proficiency. From West Point, through Garrison and Service Schools and the Staff College at Fort Leavenworth with credit, requires, and is evidence of, mental effort of a high professional order, and the Secretary of War may be certain that all such are able, conscientious, and efficient officers, prepared for the responsible duties of captains and majors with excellent prospect for success.

With regard to the discipline of the Army, it is pointed out that while the figures as to trials by courts-martial indicate, to the inexperienced, much court-martialing, which is true enough, it should be understood that arbitrary punishment, at one time the rule—that is, where a company officer himself disciplined his men with extra fatigue in various ways for minor offences, such as absence from roll-calls, careless habits, inattention at drills, etc.—is now seldom resorted to in the Service, and in lieu of such practice the custom is to send all these cases before the summary court officer, who applies the remedy specified by the President's order for correction of faults like those mentioned, and others similar and of a graver sort. The record is, that in the Army of more than 60,000 men, 59,439 errors, faults, or offences were observed during the year and taken notice of officially. That there were no more is evidence to the experienced man of the generally good conduct of the great majority of our soldiers.

Noting that desertions from the Army during the year numbered 6,533, General Chaffee estimates that the desertions involved an average loss to the Government of 60 dollars per man, making a total of 391,980 dollars, and adds: "Some suitable legislation affecting the political rights of deserters, and an aroused public opinion that desertion from the military service of the nation is repugnant to the minds of all good citizens, constitute the practical method and the only effectual means, in my opinion, for the material abatement of the crime referred to."

As the result of a very careful consideration by the General Staff in the interests of the Service, with a view to determining the actual situation and requirements of the artillery arm, it is proposed to submit a report and the draft of a Bill to increase the Coast Artillery by a few thousand men (about 5,000 men and the necessary officers), and the Field Artillery also by a few batteries; to provide for the permanent separation of the Field Artillery from the Coast Artillery, and to constitute the former a separate corps and give it regimental organisation. The proposed measure alone will not afford complete relief, but provides what may be regarded as the minimum for efficiency at this time, and is believed to be the least that should be granted. It is needless to remark

as information, it being a self-evident fact, that the annual unfolding of the coast-defence scheme of the country, inaugurated seventeen years ago, requires from time to time, as progress is made in the construction of emplacements and armament, additional *personnel* for the care of guns and *matériel* and the instruction of men in their use.

Speaking of the report of the Chief of Ordnance, General Chaffee says : "All arms of the Service are interested in ordnance *matériel*, and the report of the Chief of Ordnance contains so much information, briefly stated under appropriate sub-heads, that would interest officers of the Line if available to them. It is recommended that pamphlet copy of the report be furnished to each troop, company, and battery commander."

General Chaffee concurs in the recommendation of the Paymaster-General for an increase of commutation of quarters for officers not on duty with troops, at places where quarters are not owned by the United States.

With reference to the detail system as applied to the supply departments, General Chaffee remarks : "As this is the last opportunity that I shall have to remark upon this subject, and though still holding to the view that it is yet too soon to modify the law establishing the detail system, I may say that it is possible it will appear, upon thorough test, advantageous to the supply departments to re-establish permanently 50 per cent. of officers in the grade of major, with subsequent promotion to colonel in the corps or department; captain's rank to be the field of preparation for detail, and the remaining 50 per cent. of field officer rank to be held available for the infusion of a combination of past experience in the department and subsequent Line service with troops, which should ensure greater vigour in field officer grades as a whole than may be expected if all are permanent."

On the subject of the canteen, General Chaffee makes the following comment : "In February, 1889, the Department prohibited the sale of strong alcoholic liquors at posts, but authorised the sale of beer and light wines, under proper regulations. The Act of Congress, approved 2nd February, 1901, discontinued the sale of beer and light wines. The lowest ratio of alcoholism was for the year 1898, when beer and light wines were sold under regulations established by post authority. It is apparent, however, that the war with Spain had much to do with the low ratios shown for 1898, 1899, and 1900, as during those years the Army was in the field, and while fewer canteens were in operation than in 1897, it is obvious that conditions afforded little opportunity for indulgence of any kind." Without expressing an opinion on this subject, pro or con, the Chief of Staff states it as his experience upon the plains, and as the experience of others of the old officers of the Army, that upon starting from camp, canteens filled with water, if the men are cautioned that the march is to be a long one, without probability of finding water *en route*, or with the location of water unknown, an immediate thirst is set up, and the canteens will be emptied a great deal sooner than would be the case if the men were not informed of the prospect confronting them. Prohibition creates in soldiers a wish for drink, rather than banishes it.—*U.S. Army and Navy Journal*.



# NAVAL AND MILITARY CALENDAR.

JANUARY, 1906.

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- 2nd (T.) H.M.S. "Kent" commissioned at Chatham for China.  
 " " H.M.S. "Ocean" commissioned at Chatham for Channel Fleet.  
 " " H.M.S. "King Alfred" commissioned at Portsmouth for China Station.
- 4th (Th.) 92nd Co. R.G.A. left Ceylon for England in the "Oruba."  
 " " 2nd Bn. West India Regiment arrived in Jamaica from Sierra Leone in the "Muraji."
- 7th (S.) H.M.S. "Euryalus" arrived at Spithead from Australia.
- 8th (M.) "V" and "W" Batteries R.H.A. } arrived in South Africa from  
 " " 10th, 26th, and 92nd Batteries R.F.A. } England in the Dilwara."
- 9th (T.) H.M.S. "Hermes" commissioned at Portsmouth for East Indies.  
 " " H.M.S. "Indefatigable" commissioned at Portsmouth for West Indies.
- 10th (W.) H.M.S. "Iphigenia" paid off at Portsmouth.
- 11th (Th.) Prince Arthur of Connaught left England for Japan to invest the Mikado with the Order of the Garter.  
 " " 3rd Bn. Royal Fusiliers arrived in South Africa from Bermuda in the "Soudan."
- 13th (Sat.) H.M.S. "Kent" left Portsmouth for China.
- 17th (W.) M. Fallières was elected President of the French Republic.
- 18th (Th.) H.M. the King presented a cup to the winners in the Artillery Volunteer Competition.
- 19th (F.) 2nd Bn. East Yorkshire Regiment arrived in India from England in the "Ionian."
- 21st (S.) Loss of Brazilian battleship "Aquidaban" by explosion of Magazine in Jacarepagua Bay with loss of 223 Officers and Men.
- 23rd (T.) H.M.S. "Indefatigable" left Spithead for West Indies.  
 " " "N" and "S" Batteries R.H.A. } left South Africa for India  
 " " 76th, 81st, and 82nd Batteries R.F.A. } and Mauritius in the  
 " " 2nd Bn. Leinster Regt. (Royal Canadians) } "Soudan."
- 25th (Th.) H.M.S. "Hermes" left Portsmouth for East Indies.
- 26th (F.) 1st Bn. East Yorkshire Regiment left India for England in the "Ionian."
- 27th (Sat.) 92nd Co. R.G.A. arrived in England from Ceylon in the "Oruba" and was disbanded.
- 29th (M.) H.M.S. "Argyll" commissioned at Devonport for First Cruiser Squadron.  
 " " H.M.S. "Monmouth" paid off at Devonport.  
 " " H.M. Christian IXth, King of Denmark, died in the Amalienborg Palace, Copenhagen.  
 " " 2nd Bn. Leinster Regiment (Royal Canadians) arrived in Mauritius from South Africa in the "Soudan."
- 30th (T.) Frederick VIIIth was proclaimed King of Denmark.
- 31st (W.) H.M.S. "King Alfred" left Portsmouth for China.  
 " " 1st Bn. Northumberland Fusiliers left Mauritius for India in the "Soudan."

## FOREIGN PERIODICALS.

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### NAVAL.

ARGENTINE REPUBLIC.—*Boletín del Centro Naval*. Buenos Aires : December, 1906.—Has not been received.

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AUSTRIA-HUNGARY. — *Mittheilungen aus dem Gebiete des Seewesens*. No. 2. Pola : February, 1906.—“The Blockade Operations of the Italian Fleet before Maddalena, of September, 1905.” “Account of the Battle of Tsushima.” “Progress in Naval Gunnery and Armour.” “Foreign Naval Notes.”

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BRAZIL.—*Revista Maritima Brasileira*. Rio de Janeiro : September, 1905.—Has not been received.

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CHILI.—*Revista de Marina*. Valparaiso.—Has not been received.

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FRANCE.—*Revue Maritime*. Paris.—We are informed that this well-known publication, issued under the auspices of the Ministry of Marine, is shortly to reappear. Its non-publication during the last few months has been due to the death of the Editor and the consequent disorganisation of the arrangements connected with its issue.

*Questions Navales : Revue Générale de la Marine*. Paris : 10th January, 1906.—“The Year 1906.” “A Cry of Alarm.” “The Regulating of the Effectives and of the hours of work of the Crews of Ships of the Mercantile Marine.” “The Problem of Speed and the Struggle for the Empire of the Sea.” “The International Automobile Exhibition.” “The Salon Cup.” “The Renaissance of the English Navy.” 25th January.—“M. Etienne Lamy, Academician.” “The Lesson of Facts and our Naval Programme.” “Our Mercantile Marine.” “The Committee of Ship-owners.” “Naval Automobilism and our Submarines.” “The Artillery Engineers of the Navy.” “The Saint Maixent Naval School for Petty Officers.”

*La Marine Française*. Paris : January, 1906. — Has not been received.

*Le Yacht*. Paris : 6th January, 1906.—“The Report on the Naval Budget and the Programme of New Constructions.” “Yachting Notes.” “The Sardine Crisis.” “The Promotion Lists for 1906.” “Brazilian Light-draught Gun-boats.” 13th January.—“The Naval Education of the Executive Personnel.” “Yachting Notes.” “The New German Armoured Cruiser ‘York.’” “The French Navy in 1905.” “The Suppression of the Submarine Defences.” 20th January.—“The Distribution of our Naval Forces.” “Yachting Notes.” “The French Navy in 1905” (concluded). “The U.S. Monitor ‘Florida.’” 27th January. — “We must Concentrate our Battle-ships in the North.”

"Yachting Notes." "The Naval Institute." "Speed and Enveloping Movements."

*Le Moniteur de la Flotte.* Paris: 6th January, 1906.—"Both?" "The Navy in Parliament." 13th January. — "Discussion Ended." "Ships on Trials." "Commission for the Revision of Pay in the Navy." 20th January.—"Admiral Dupetit Thouars." "Medium Artillery at the Battle of Tsushima." "The School of Gunnery." 27th January.—"The *Rôle* of the Destroyer." "Fishermen and *Les Inscrits Maritimes*." "The Navy in Parliament." "The Votes for Naval Works."

GERMANY.—*Marine Rundschau.* Berlin: February, 1906.—"Political and Economic Problems in Canada." "An Examination into the Development of Powder." "On Promotion Conditions among Officers in the U.S. Navy." "Side-lights on the French Fleet." "The Fleets of Argentina, Chili, and Brazil in the last two years." "On the Means for Solving the Alcohol Question in the Navy." "The Development of the Kiao-Chau Territory in the Years 1904-05." "Foreign Naval Notes."

ITALY.—*Rivista Marittima.* Rome: January, 1906. — "Modern Naval Constructions." "For the New Naval Agreement." "Marine Motors and Internal Combustion." "Recent Studies on the Variation of the Dip of the Horizon at Sea." "A New Type of Pressure Gauge." "Collisions." Letters to the Director:—"The Transmission of Orders." "On the Physical Education of the Men of the Fleet." "Foreign Naval Notes."

PORTUGAL. — *Revista Portuguesa, Colonial e Maritima.* Lisbon: December, 1906.—"A New Submarine." "A Japanese Embassy to Europe in the 16th Century" (*continued*). "The Natives in the Province of Mozambique and the Chinese in the Rand Gold Mines." "Travels in Angola" (*continued*). "The Colonial Movement." "Foreign Naval Notes."

SPAIN.—*Revista General de Marina.* Madrid: January, 1906. — "Some Remarks on the Battle of Tsushima." "Official Report of Admiral Togo on the Battle of Tsushima." "Description of the Bergman Regulation Pistol." "Steam Turbines." "The Panama Canal." "Some Considerations on the Promotion Regulations in the Navy." "The Japanese Navy." "Naval Lessons of the War." "Four Years' Experience with Belleville Boilers."

## MILITARY.

ARGENTINE REPUBLIC.—*Revista del Boletín Militar del Ministerio de Guerra.* Buenos Aires: December, 1905.—"The Grand Manœuvres." "Progress of the Country." "*Si vis pacem para bellum*: The Lesson of the Manœuvres." "Notes on the General Military History of Latin America." "Some Applications of Physics to Military Science." "Introduction to the Study of Military Administration." "Some Considerations on Military History." "The School of Pinerolo." "The Organic



Military Law." "On Fortification." "The Service of Cavalry in the Field." "Scales of Measurement."

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AUSTRIA-HUNGARY.—*Danzer's Armee-Zeitung*. Vienna: 4th January, 1906.—"Retrospect of the Year, 1905." "The Peace Efficiency of Army Commanders." "The Heavy Field Howitzer Question." "Addenda to the 100th Anniversary of the Battle of Austerlitz" (*concluded*). "From the Bulgarian Army." 11th January.—"The Five Annual Courses at the Infantry Cadet School." "Instruction for Military Clerks." "The German '98 Rifle with the 'S' Ammunition." 18th January.—"The Military Deployment at Vilagos." "The Musketry Instructions of the German Army." "Improvement in the Position of the Private Soldier and of the Long-Service Non-commissioned Officer in the Russian Army." "Training of our Cavalry Officers." 25th January.—"Personal Impressions of the Russo-Japanese War from the Japanese Side." "Field Positions and Fortresses." "The *Pallestra* in the Art of Fencing." "How the German *Kriegerbund* could become Great."

*Organ der Militär-wissenschaftlichen Vereine*. Vienna. Vol. LXXII. Part I. 1906.—"Infantry Fire-Control." "Reorganisation of Field Artillery." "The Japanese in the Battles round Mukden."

*Mittheilungen über Gegenstände des Artillerie- und Genie-Wesens*. Vienna: January, 1906.—"Remarks on the Experimental Determination of the Progress of the Rapidity of Projectiles." "Contribution to the Study of the Battles round Port Arthur." "Electro-Magnetic Guns."

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BELGIUM.—*Bulletin de la Presse et de la Bibliographie Militaires*. Brussels: 31st December, 1905.—"The Final British Regulations on Combined Tactics" (*concluded*).

15th January, 1906.—"The French Musketry Instructions of the 31st August, 1905." "Landings." 31st January.—Has not been received.

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FRANCE.—*Revue du Cercle Militaire*. Paris: 6th January, 1906.—"The New Year." "At the Russian Staff College." "Report on the Work executed by the Army Geographical Service in 1904." "Small Units in Action—Formerly and To-day" (*continued*). 13th January.—"The new Chief of the Staff of the German Army." "The 1st Artillery Regiment." "Small Units in Action—Formerly and To-day" (*continued*). "An Austrian Opinion on the German Army." 20th January.—"An Austrian Opinion on the German Army" (*continued*). "Small Units in Action—Formerly and To-day" (*continued*). 27th January.—"Report on the Naval Budget for 1906." "An Austrian Opinion on the German Army" (*concluded*). "Small Units in Action—Formerly and To-day" (*concluded*).

*Le Spectateur Militaire*. Paris: 1st January, 1906.—"The Army is not Commanded." "The Russo-Turkish Campaign of 1877-78" (*continued*). "The Army an Educator by means of Reciprocity." "The Conquest of Ménabé" (*continued*). 15th January.—"The Army is not Commanded" (*concluded*). "The Russo-Turkish Campaign of 1877-78" (*continued*). "The Russo-Japanese War" (*continued*). "The Army an Educator by means of Reciprocity" (*continued*). "The Conquest of Ménabé" (*concluded*).

*Revue de l'Intendance Militaire.* Paris: December, 1905.—“On the Preservation of Fresh Meat.” “The Army of Egypt, 1798-1799: Administration and Discipline” (*continued*). “General Information regarding Combustibles liable to be issued to the Army.” “Analyses of Yeast.”

January, 1906.—Has not been received.

*Revue du Génie Militaire.* Paris: December, 1905.—“The Present Tendencies of Engineers in the Russian Army” (*continued*). “Kites and their Military Uses” (*concluded*).

January, 1906.—Has not been received.

*Revue de Cavalerie.* Paris: December, 1905.—“To Right and to Left.” “The Covering Service in the Campaign in the East, 1870-71.” “Letters to Plok” (*continued*). “The *Ordre de Bataille* of the German Army on the 1st January, 1906.” “General of Division Baron Faverot de Kerbrech.”

January, 1906.—Has not been received.

*Revue Militaire des Armées Etrangères.* Paris: January, 1906.—“Infantry Action in the Russo-Japanese War.” “The Italian Provisional Infantry Drill Regulations.”

*Revue d'Histoire.* Paris: January, 1906.—“Staffs and Military Cabinets during the Campaign of 1870-71.” “The Campaign of 1794 with the Army of the North” (*continued*). “The Pursuit of the English Army by Marshal Soult.” “The War of 1870-71: The Army of Châlons” (*continued*).

*Revue d'Artillerie.* Paris: December, 1905.—“The German ‘S’ Bullet.” “The Browning Sporting Rifle and Automatic Pistol.” “The Calibre of the Revolver.”

January, 1906.—Has not been received.

*Journal des Sciences Militaires.* Paris: January, 1906.—“A Study of the German General Staff on the new French Infantry Drill Regulations and Instructions.” “Asia after the Russo-Japanese War.” “Dragomiroff.” “Study of the Combat with a view to determining its Theoretic Form.” “Experience of the Russo-Japanese War.” “Comparative Study of French and German Field Service Regulations” (*continued*). “The Field Service Kit, and Lightening the Infantryman’s Load.” “The War of Succession in Austria, 1740-1748” (*continued*). “The Military Month.”

GERMANY. — *Militär-Wochenblatt.* Berlin: 2nd January, 1906. — “Musketry Experiments and Experiences.” “A New Weapon.” “New Field Service Regulations in Bulgaria.” 4th January.—“Corps or only Divisional Artillery?” “Infantry Musketry Instruction and Gymnastics.” 6th January. — “The Bullet a Fool, the Bayonet a Man!” “Corps or only Divisional Artillery?” (*concluded*). “Battle Shooting of Infantry” (*continued*). 9th January.—“The Employment of Optical Means of Communication in the Herero and Hottentot Rebellion.” “The Bullet a Fool, the Bayonet a Man!” (*concluded*). “The New Italian Drill Regulations.” 11th January.—“From Tjurientschen to Tawa.” “Intelligence from the Russian Army.” “Infantry Battle Firing” (*concluded*). 13th January.—“The Importance of the War Game in the Training of Cavalry Officers.” “From Tjurientschen to Tawa” (*continued*). 16th January.—“In Memory of General Albert von Holleben.” “Once More the Fight against Battery Shields.” “From Tjurientschen to Tawa” (*continued*). “Intelligence from the Belgian Army.” 18th

January.—“To Field-Marshal Count von Haesler on his 70th Birthday.” “From Tjurientschen to Tawa” (*concluded*). “The Great Elector as Teacher of the Army.” 20th January.—“Formal Considerations on the Battle of Mukden.” “Opinions on a Sturdy Horse for Artillery.” “The United States Army in 1905.” “On the Development of the Shortening the Period of Service in the Russian Army.” 23rd January.—“Frederick the Great and his East Asiatic Commercial Companies.” “On the Battle of Beaune la Rolande.” “Military Intelligence from Switzerland.” 25th January.—“Field Artillery Practice against Balloons.” “Frederick the Great and his East Asiatic Commercial Companies” (*continued*). “Observations on the Promotion of Individual Training in the Infantry.” 27th January. — “General Zerpitzkij.” “Frederick the Great and his East Asiatic Commercial Companies” (*concluded*). 30th January.—Lieut.-General Sir Ian Hamilton’s Book about his Participation in the War in Manchuria.” “General Zerpitzkij” (*concluded*).

*Internationale Revue über die gesamten Armeen und Flotten.* Dresden: January, 1906. — “Military and Naval Intelligence from Austria-Hungary, Bulgaria, China, Denmark, France, Germany, Great Britain, Greece, Holland, Italy, Japan, Russia, Servia, Sweden, Turkey, and the United States.” *Supplement 69*.—“The German Imperial Manœuvres, 1905.” *French Supplement 82*.—“Dangers of Ground Cover.” “Consumption and Supply of Ammunition in the Infantry and Artillery during the Russo-Japanese War.” “Musketry Instruction in the German Army.” “Provisioning of Armies in War.” “The Panama Canal from the Naval Strategic Point of View.” “The Problem of Fire Superiority.” “Submarine Mines.” “How should Infantry Advance under Artillery Fire?”

*Jahrbücher für die Deutsche Armee und Marine.* Berlin: January, 1906. — “The Ammunition Supply of the Field Artillery.” “Napoleon, Moltke, and the Fortress.” “The Peace-Effective Salaries of Officers.” “Review of the Second Silesian War.” “Russia’s Army and Navy and the Revolution at the end of 1905.”

*Neue Militärische Blätter.* Berlin: December, 1905. No. 23.—“What does the Personality of Frederick the Great teach the Officer with regard to his Military Self-Education?” “The War of 1805 in Germany.” “General von Goeben.” “On the Formation of a Great German Women’s League for the Improvement of Our Navy.” “Argentine Officers in the German Army.” “Military Echoes.” “Military Intelligence.” No. 24.—“What does the Personality of Frederick the Great teach the Officer with regard to his Military Self-Education?” (*continued*). “The War of 1805 in Germany” (*concluded*). “Personation.” “Military Intelligence.” No. 25-26.—“The Crown Prince Grenadier Regiment.” “New Revelations with regard to the Tanroeggen Convention of 1812.” “What does the Personality of Frederick the Great teach the Officer with regard to his Military Self-Education?” (*continued*). “The Present Military Situation on the North-West Frontier of India.” “Order to the Troops in the Warsaw Military District.” “Firing at Captive Balloons.” “The Turbine Question amongst the Principal Powers.” “Military Intelligence.”

January, 1906.—Has not been received.

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ITALY.—*Rivista di Artiglieria e Genio.* Rome: November, 1905.—“Firing Exercises of the Coast Artillery.” “An Italian Division at the Siege of Colberg (1807).” “On the Use and Methods adopted for Field Artillery Fire by the two Belligerent Armies during the Russo-



Japanese War." "Calculation of the Flow of Magnetic Induction across any Solenoid." "The Walls of Modena" (*continued*).

*Rivista Militare Italiana.* Rome: January, 1906.—"Some Notes on Military Psychology." "Practical Solutions of Tactical Themes." "French West Africa." "Military Agrarian Instruction." "The Infantry Provisional Regulations: Some Brief Considerations and Suggestions." "Unproductive Charges!"

MEXICO.—*Revista del Ejercito y Marina.* Mexico: January, 1906.—"To the Army." "Proposals and Programme." "Firing Lessons." "Military Raids." "Rank and Command in the U.S. Army." "The Entry of Officers in Germany." "Military Schools of the U.S. Army." "The Brazilian General Staff."

PORTUGAL. — *Revista de Engenharia Militar.* Lisbon: November, 1905.—"General Report on the Works carried out in 1904-05." "The Number of Workmen, Development and Time of Execution of Field Fortification Works." "Military Recognition of the Portuguese Frontier between the Districts of Lourenço Marquez, Gaza, Transvaal, and Swaziland, and the Establishment and Provision of Police Posts during the Anglo-Boer War" (*continued*).

*Revista de Infanteria.* Lisbon: January, 1906.—"A New Infantry Bulet." "The Official Teacher." "Critical Analysis of the Compensation Laws." "The Instruction of Colonial Troops." "What is thought about the future Campaign against the Cuanhamas."

RUSSIA.—*Voïennyi Sbornik.* St. Petersburg: November, 1905.—"Imperial Manifesto." "Michael Ivanovitch Dragomiroff." "Contribution to the History of 1812." "Notes on Sebastopol, 1854, 1855, and 1856" (*continued*). "The Defence of Kronstadt, 1854-55." "The Fundamental Idea for a Plan of Campaign" (*concluded*). "The Man and the Rifle in Infantry Action." "On the Fixing of the Strength of Garrison Artillery for a Fortified Position" (*concluded*). "Draft of a Regulation on Punishments" (*concluded*). "Military Value of Waterways in European Russia" (*continued*). "Operations of the VIth Siberian Army Corps in Manchuria during the Period of its Stay on the Sha-ho, and at the Battle of Mukden" (*continued*). "Field Diary" (*continued*). "On the Afghan Frontier" (*continued*). "New German Military Regulations and their Execution" (*concluded*).

December, 1905, and January, 1906.—Have not been received.

SWITZERLAND.—*Revue Militaire Suisse.* Lausanne: January, 1906.—"The Decline of Russian Naval Power." "The German Manœuvres of 1905." "The New Swiss Infantry Musketry Instructions." "Notes on the Use of Military Balloons." "Ehrhardt Mountain Guns, Model 1905."

SPAIN.—*Memorial de Ingenieros del Ejército.* Madrid: December, 1905.—"The Eclipse of the Sun, 30th August, 1905: The Observations made at Siguënza by the Military Engineers" (*concluded*). "A Question of Action." "A Strategic Railway."

*Revista Técnica de Infantería y Caballería.* Madrid: 1st January, 1906.—"General the Marquis de la Romana." "The Crimea, Italy, Mexico." "France and Germany in case of War." "Night Military

Operations." "The Island of Teneriffe." 15th January.—"General the Marquis de la Romana" (*continued*). "National Defence: The Crisis of Fortification, according to General Langlois." "What Military Institutions can do." "Cavalry and Firing Instruction." "The Island of Teneriffe." "The Field of Bailen."

*Revista Científico-Militar y Biblioteca Militar.* Barcelona: January, 1906.—"Day of Rejoicing." "Necessary Reform." "The New German Infantry Bullet." "Lessons from the late War as far as relates to Infantry." "Fragments of the Work, *Rerum Novarum*." "The Austrian Instructions for Cavalry Fighting on Foot." "Batteries of Four or Six Guns." "The Japanese Soldier's Pocket-Book" (*concluded*).

UNITED STATES.—*Journal of the United States Cavalry Association.* Fort Leavenworth, Kansas: January, 1906.—"Five Years a Dragoon" (*continued*). "The Battle of the Shades." "Les Grands Manœuvres." "The Modern Woodmen of America." "The Sea-girt Competition Results." "The Mounted Officers' School at Fort Riley." "Problem." "Martial Law and the Suspension of the Writ of *Habeas Corpus* in the United States." "Reprints and Translations." "Military Notes."

*Journal of the Military Service Institution.* Governor's Island, N.Y.H.: January-February, 1906.—"How far does Democracy affect the Organisation of our Armies, and how can its Influence be most effectively Utilised?" (*Seaman Prize Essay*). "The Ventilation of Magazines." "Modern Military Magazine Guns" (*continued*). "Employment of Philippine Scouts in War." "Manœuvres in the Swiss Army." "Napoleon's Appointment to the Army of Italy." "The Non-commissioned Officers." "Field and Siege Operations in the Far East" (*continued*). "Types and Traditions of the Old Army." "Translations and Reprints." "Comment and Criticism."

*Journal of the United States Infantry Association.* Washington: January, 1906.—"In Pace para Bellum." Some Notes on the Japanese Infantry." "The Use of the Gun Sling." "Organisation of Philippine Troops." "Swiss Shooting Clubs." "Military Athletics." "Comments." "Notes on Field Service in Mindanao." "A Preliminary Course in Target Practice." "Revision of Firing Regulations." "Amenability of Military Persons for Violation of the Laws of the Land." "Map Problem." "Suggestions from Officers." "Comment." "Reprints."

*Journal of the United States Artillery.* Fort Monroe, Va.: September-October, 1905.—"The Ballistic Co-efficient." "Light Q.F. Guns in Coast Fortresses." "The Artillery Collar." "The Best Shape of Trail for Long Recoil Carriages." "The Altitude Factor: A Reply." "Professional Notes."

November-December, 1905.—Has not been received.

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## NOTICES OF BOOKS.

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*A Staff Officer's Scrap-Book.* By Lieut.-General Sir IAN HAMILTON, K.C.B. London: Edward Arnold.

There have been many books lately published dealing with the operations of the armies in Manchuria and with the work of the ships of the rival fleets in the Japan Seas, but this book, by the senior British

military *attaché*, is quite one of the very best which has yet appeared. It is not only that it is eminently readable—General Hamilton served long since his apprenticeship to literature—but the author makes no secret of the feeling which stirred him throughout all that he witnessed of the campaign, and which has certainly been uppermost with all Britishers, whether sailors, soldiers, or civilians. We have all wanted to hear how the soldiers of Nippon compared with our own men; we have longed for someone *who knows* to tell us of this, and we have hoped and prayed that the verdict might be in our favour. At the very beginning of Sir Ian's book we find these words, written while yet he had seen but little of the Japanese Army and nothing of its actions: "I have fairly let myself in for the opinion that the Japanese Army, battalion for battalion, surpasses any European Army, excepting only the British Army at its best—not at its second best, which is the state in which it usually finds itself." Throughout the book one cannot help feeling that the author has always had "our own fellows" in his mind, and one has shared the anxiety and ultimate triumph to which, almost at the end of the volume, he thus gives expression. He is describing the action of Yoshirei, where the Japanese attack had everywhere come to a standstill, and he says:—"Throughout this campaign I have been anxiously watching—I trust in no spirit of envy, but simply with deep professional interest—to see if the moment would arrive when I could honestly exclaim: 'Our fellows could have gone one better.' Thus far, except as regards a few mechanical details, such as road making, heliographs, etc., and certain technical matters, which must always remain matters of opinion, I have had to answer my own question negatively, in so far at least as the infantry is concerned; but, when I viewed this little hollow, where the lines of the opposing marksmen were clearly marked out to a man by the piles of empty cartridge cases, then at last I was able to recall with pride the prolonged fighting at 100 yards range on the 6th January, 1900; the bayonet charge of the Devons across just such an interval and such a piece of ground; the loss of all the company officers and a third of their men in a few seconds; the piercing of the enemy's line and his complete overthrow. On this occasion at any rate, then, I feel we have no reason to shrink from a comparison." When we have read this we think that we knew it "all the time," and it is surely not so much with exultation as with thankfulness that we realise our fixed belief that we still possess an "incomparable British infantry."

General Hamilton gives us some delightful sketches of the Japanese officers whom he met and with some of whom he lived for months in the field. With all he was *bon camarade*, and we seem to know them from his descriptions. Here is Marshal Oyama:—"When first I met the Marquis Oyama some three weeks ago, I experienced a feeling of relief at having at last struck what seemed to be a point of resemblance between our own well-tryed, no-damned-merit system and the method of filling the very highest appointments in Japan. I confess, in fact, that the great Marquis impressed me rather as *très grand seigneur* of the Satsuma clan, with many widespread connections in political power, than as one who would ever for a moment pretend to be an exceptionally studious, scientific, professional soldier." It was only to be expected that General Hamilton should hit off in a few words the one blot which has throughout the war been dimly apparent in the operations of the Japanese:—"Civilians may be dazzled by the brilliance of Kuroki's achievement"—the author is speaking of the battle of the Yalu—"but soldiers must be more critical. On April 25th the Japanese stood—and knew they stood—



in overwhelming force, only separated by two rivers from their enemy. Nothing, however, would induce them to make the plunge until they had completed their most minute preparations. Let the Germans admire this if they will; it is not the principle by which Marlborough, Napoleon, or Lee won their reputations. On the day they meet a first-class General this passion for making all things absolutely safe may be the ruin of our careful little friends."

Sir Ian Hamilton has a delightful style; he possesses in a high degree the saving gift of humour; and while he seems to have assimilated all the lessons of the war, he has the courage to tell his countrymen once more that which they will neither hear nor heed until the enemy is within our gates:—"England has time therefore — time to put her military affairs in order; time to implant and cherish the military ideal in the hearts of her children; time to prepare for a disturbed and anxious 20th century. The first thing we have to learn, I am sure, is that neither pay, conscription, numbers nor equipment can compensate for any falling off in the adventurous fighting spirit of which the germs still exist in the souls of our race. What civilisation may have stolen—perhaps inevitably—from the old semi-barbarous warrior spirit, she should have surely made good by quickening a more enthusiastic patriotism, and giving the young generations an ideal for which they would lay down their lives. Is it too late to expect this? From the nursery and its toys to the Sunday school and its cadet company, every influence of affection, loyalty, tradition, and education should be brought to bear on the next generation of British boys and girls, so as deeply to impress upon their young minds a feeling of reverence and admiration for the patriotic spirit of their ancestors."

In his preface, Sir Ian hints that he may one day give us some further notes from his scrap-book; they will be very welcome. It is only necessary to add, in conclusion of this notice, that the maps, sketches, and photographs with which his volume is illustrated are all excellent, the maps, indeed, being especially illuminating.

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*Modern Guns and Gunnery.* By Major H. A. BETHELL, R.F.A. 8vo.  
(F. J. Cattermole.) Price, 10s. 6d. Woolwich, 1905.

Major Bethell has produced a very useful little book, which contains a good deal of information that will be found valuable for students to whom the official Text-Book on gunnery is something of a sealed work owing to the technicalities with which it is charged.

Although for officers whose business it is to design and to make guns, carriages, and ammunition, an exact mathematical knowledge of the science of gunnery is indispensable, yet for officers who have to use the guns it is sufficient to have a clear understanding of the principles of gunnery only, so as to enable them to apply these principles to the best advantage in handling their guns. It is not necessary for a field battery commander to know how to calculate the strains in the buffers of his guns; but it would seem essential that he should know that his shrapnel bullets cover a wider front at a long range than at a short one, if burst at the same distance from the target, and why this is so.

The author hopes his book will serve two purposes: First, that it should be an easily understood manual for those whose duty leaves them no time to master such a difficult science as gunnery; and secondly, that it should serve as an introduction to the study of more advanced books. He points out that many of the facts stated in his manual have to be

accepted without proof, and this being the case, he hopes that readers will not be content with such unsupported statements, but will be at the trouble to read up the demonstration of them in more scientific works.

With the advent of Q.F. guns, the principles of the design of the carriage and of the ammunition have assumed an importance at least equal to those governing the design of the gun; and as a sound knowledge of these principles is indispensable to officers, the author has devoted some trouble to giving a clear explanation of the general principles governing both branches of this question. He deals with the matter in Chapters VI. and VIII., which are consequently two of the most valuable in the book, full of valuable matter as the whole work is.

Major Bethell is to be heartily congratulated on his effort to place his knowledge and experience at the service of those who are less well-informed than himself, and we hope he will find his reward in a large number of appreciative readers.

#### PRINCIPAL ADDITIONS TO LIBRARY, JANUARY, 1906.

*Lord Randolph Churchill.* By WINSTON S. CHURCHILL. 2 Vols. 8vo. 36s. (Macmillan & Co., Ltd.) London, 1906.

*Notes on the Evolution of Infantry Tactics.* By Colonel F. N. MAUDE. 8vo. 5s. (William Clowes & Sons, Ltd.) London, 1905.

*The German Official Account of the War in South Africa: March, 1900, to September, 1900.* By Colonel H. DU CANE. 8vo. 15s. (John Murray.) London, 1906.

*Handbook of the 6-pounder Hotchkiss Q.F. Gun (Land Service).* 8vo. 9d. (Presented.) (Harrison & Sons.) London, 1905.

*The Pressure of Explosives: Experiments on Solid and Gaseous Explosives.* By J. E. PETAVEL. Reprint from the Proceedings of the Royal Society. 4to. (Presented.) (Dulau & Co.) London, 1905

*Vorgeschichte der Schlacht bei Belle-Alliance Wellington.* By JULIUS VON PFLUCK-HARTUNG. 8vo. 8s. (Richard Schröder.) Berlin, 1903.

*Aldershot Military Society Lectures:—*No. 86: *Imperial Strategy.* By Colonel G. G. ASTON, C.B., D.A.A.G. 1905. No. 87: *Cavalry.* By Major-General H. J. SCOBELL, C.B. 1905.

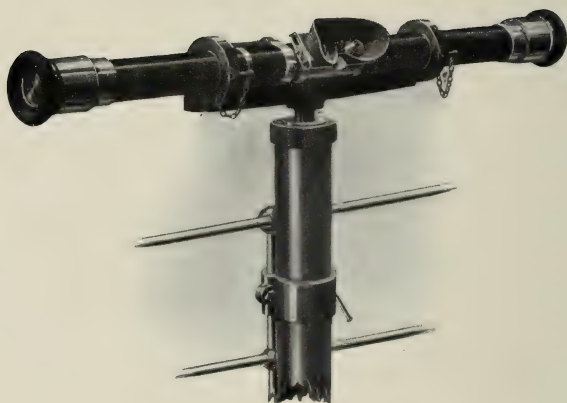
*Journal of the Iron and Steel Institute.* Vol. LXVIII. Edited by B. H. BROUGH. 8vo. (Presented.) (Ed. F. N. Spon, Ltd.) London, 1906.

*Memories of General Sir Henry Dermot Daly, G.C.B., C.I.E.* By Major H. DALY. 8vo. 15s. (John Murray.) London, 1905.

*The Great Siege: Investment and Fall of Port Arthur.* By B. W. NORREGAARD. 8vo. 10s. 6d. (Methuen & Co.) London, 1906.







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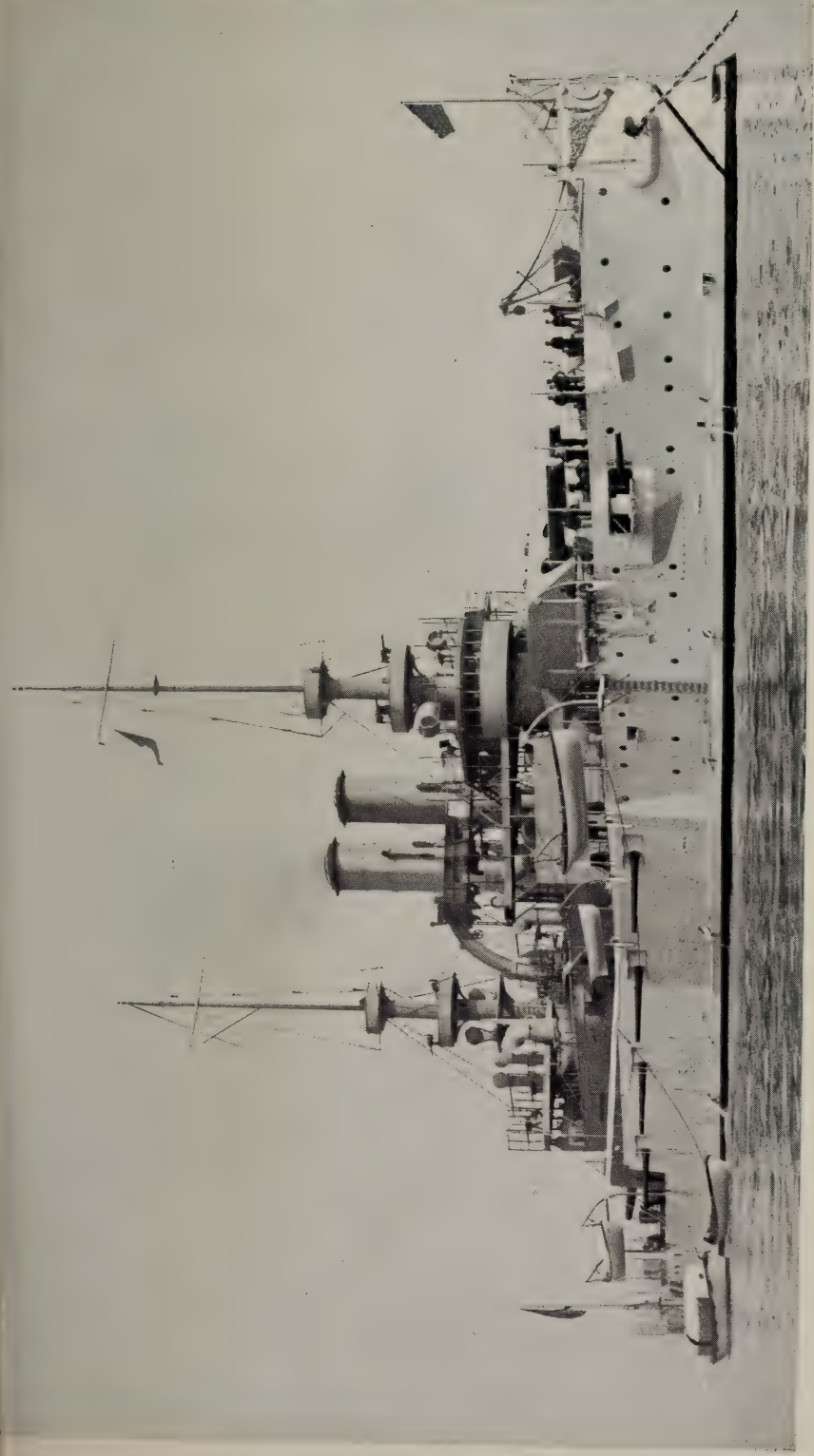
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# THE JOURNAL

OF THE

## ROYAL UNITED SERVICE INSTITUTION.

VOL. L.

MARCH, 1906.

No. 337.

*[Authors alone are responsible for the contents of their respective Papers.]*

### SECRETARY'S NOTES.

1. The following officers joined the Institution during the month February:—

Lieutenant H. J. N. Davis, Connaught Rangers.  
 Major T. C. W. Molony, R.F.A.  
 Captain F. W. Lumsden, R.M.A.  
 Lieutenant H. A. Clifton, 7th Dragoon Guards.  
 Major W. R. J. Ellis, Yorkshire Light Infantry.  
 Captain H. E. Trevor, Yorkshire Light Infantry.  
 Captain R. E. Boulton, Yorkshire Light Infantry.  
 Captain W. D. Wright, V.C., Queen's Royal West Surrey Regiment.  
 Lieut.-Colonel P. H. Johnston, C.M.G., M.D., R.A.M.C.  
 Captain M. R. Walsh, Worcestershire Regiment.  
 Lieutenant S. O. Robinson, 5th Battalion Middlesex Regiment.  
 Captain S. E. Holland, Rifle Brigade.  
 Major L. H. Parry, R.G.A.  
 Captain A. Burrows, Loyal North Lancashire Regiment.  
 Captain P. H. Climo, R.G.A.  
 Second Lieutenant R. A. Lloyd-Barrow, 14th Hussars.  
 Captain R. N. Greathed, R.F.A.  
 Captain H. G. A. Thomson, Royal Warwickshire Regiment.  
 Colonel H. Lysons, V.C., A.A.G., India.  
 Captain E. J. Harbottle, 1st V.B. Devonshire Regiment.  
 E. D. Evans, Esq., late Lieutenant 1st V.B. K.O. Royal Lancaster Regiment.  
 Major A. French, late Suffolk Regiment.  
 Second Lieutenant L. E. Parker, Grenadier Guards.  
 Sub-Lieutenant W. Ginman, R.N.V.R.  
 Lieutenant R. H. Keate, R.N.

(No officer of the Imperial Yeomanry joined the Institution during the month.)

2. At the Anniversary Meeting, held at 4 p.m. on Tuesday, 6th March, the following officers were appointed to fill vacancies on the Council:—

Captain Honble. A. E. Bethell, C.M.G., R.N.  
 Colonel L. A. Hale (re-elected).  
 Brigadier-General C. G. Donald, C.B. (re-elected).  
 Colonel, Honble. O. V. G. A. Lumley, h.p., late 11th Hussars.  
 Commander W. F. Caborne, C.B., R.N.R.  
 Colonel W. A. Hill, C.B. (re-elected).

Colonel R. B. Colvin, C.B., Essex Imperial Yeomanry.

Colonel T. S. Cave, V.D. (re-elected).

Colonel W. C. Horsley, V.D., 20th Middlesex V.R.C. (Artists).

3. The Gold Medal of the Institution for the year 1905 and the first Trench-Gascoigne Prize of thirty guineas have been awarded to Major W. C. Bridge, South Staffordshire Regiment, D.A.A.G., Mauritius. The second Trench-Gascoigne Prize of thirty guineas has been awarded to Major H. R. Mead, 116th Mahrattas.

The Essays written by the following officers were recommended by the Referees for publication in the JOURNAL, and will consequently appear in due course :—

Major A. B. N. Churchill, R.G.A.

Major R. A. Johnson, 1st V.B. Hampshire Regiment.

Major J. F. Cadell, R.F.A.

The Referees who adjudicated on the Essays were :—

Major-General Sir G. H. Marshall, K.C.B.

Major-General Sir T. Fraser, K.C.B., C.M.G.

Lieut.-Colonel C. E. H. Hobhouse, M.P.

4. The first prize of one hundred guineas for the Special Military Essays for 1905 has been awarded to Captain F. P. Dunlop, Worcestershire Regiment. The second prize of thirty guineas has been awarded to Colonel F. N. Maude, C.B., 1st Hampshire Royal Engineers (Vols.), late R.E. The third prize of ten guineas has been given to Major G. F. MacMunn, D.S.O., R.F.A.

The Essays written by the following officers were recommended by the Referees for publication :—

Captain S. C. Birch, h.p., late Northumberland Fusiliers.

Major R. F. Sarsbie, R.E.

Major J. F. Cadell, R.F.A.

The Referees who adjudicated on the Essays were :—

Field-Marshal Sir H. E. Wood, V.C., G.C.B., G.C.M.G.

The Right Honourable Sir Charles Wentworth Dilke, Bart., M.P.

Brigadier-General F. S. Robb, C.B., M.V.O.

Colonel H. W. Pearse, D.S.O.

H. Spenser Wilkinson, Esq.

5. The Council have decided to publish the two Gold Medal Prize Essays and three of the other Essays, sent in for competition and recommended by the Referees for publication, in the April No. of the JOURNAL; and at the same time the six best Essays for the Special Military Essay Competition will be published and issued to Members in the usual way, as a supplementary number. Both sets of Essays will also be published in pamphlet form, and can be obtained by the public, price one shilling, post free, on application to the Publisher, Mr. C. Gilbert-Wood, Granville House, Arundel Street, Strand, W.C.

The anonymous donor of the one hundred and fifty guineas for the special Prize Essay competition has kindly contributed a further fifty pounds towards the expense of circulating the Prize and Commended Essays in question.

6. In view of applications having been received, the Council desire to intimate that the Museum is available only for Conversazioni and Receptions of recognised learned and scientific Societies and similar Institutions. The Theatre and a Committee Room can be used for meetings of Naval and Military Societies and Institutions, the fee being nominal. Applications should be addressed to the Secretary.

7. A specimen of an English Long Bow is required for the Museum.

# THE TOLERATION OF ENTERIC FEVER BY THE ARMY.

*By H. E. LEIGH CANNEY, Esq., M.D.*

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Wednesday, 8th November, 1905, at 3 p.m.

Major-General Sir T. FRAZER, K.C.B., C.M.G., R.E., in the Chair.

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IN November, 1901, I had the honour of placing before the members of the R.U.S.I. a scheme for the suppression of enteric fever (and other allied diseases) in Armies in the field. The unanimous approval with which this scheme was then received, and the earnest consideration given, in the discussion following, by members and authorities representing all branches of the Service, as well as many civilian authorities, resulted in steps being taken in South Africa during the last winter of the war which led to the saving of heavy losses, and entirely supported the optimistic forecast then given.

On the 6th May of the following year the Secretary of State for War stated in the House of Commons that "In the camps and stationary garrisons steps have been taken to have the water boiled, and special officers selected to deal with the sanitary work of the district and the outbreak of disease. . . . The principal medical officer reports that the enteric cases mostly come from the columns. For mobile columns a scheme for providing safe water to fill the soldiers' water-bottles at all times has been prepared, and measures are being taken to carry this out." This was reaffirmed later by Surgeon-General Sir William D. Wilson. He stated: "Last year (1901) I recommended in South Africa that wherever there was a stationary body of men means should be taken for boiling the water, and in that way enteric was stamped out. . . . The columns while on the march were unable to boil their drinking water," hence the enteric came "mostly from the columns." The war being then over, it became necessary to urge the organisation of sanitation on a permanent basis in the Army, and on the 31st July, 1902, it was stated that experiments on sterilisation of water were in progress, but that the scheme had not yet been sufficiently tested to justify its establishment on a permanent basis.

On the 11th August, 1904, two years later, it was officially stated in the House of Commons that "the Medical Advisory Board recommend the appointment of specialist sanitary officers to army corps and commands. . . . Instructions regarding the sterilisation of all fluids employed as drinks, which are applicable to manœuvres, service abroad and active service, have been included in the 'Manual of Combined Training'; heat, and in some instances, filtration, are the means recommended. Lectures were regularly given



to cadets at Sandhurst and Woolwich, and a more advanced course in military hygiene was provided for officers at the Staff College. Instructions in hygienic matters were also given by the specialist sanitary officers. The regulations were also being revised in the direction of devolving more responsibility upon non-medical officers in the supervision of sanitary services in barracks and camps." This recommendation of the Advisory Board practically embraced the "essentials" of the scheme which met with your approval in 1901.

On the 11th August, 1905, however, in reply to Sir Henry Kimber's question as to whether these recommendations had been carried out and suitable apparatus for the sterilisation of fluids at manœuvres, for service abroad and for active service had been supplied to the Army in India and South Africa, the Secretary of State for War stated that the Advisory Board had not made "such a sweeping recommendation, and that sterilisation experiments were still going on." During this interval of four years, absorbed in experiments, which might reasonably have been completed within two months, the Army had been left exposed to profound danger if mobilised, had suffered a further loss by the incidence of over 10,000 cases of enteric fever in India and South Africa, and the conception by the authorities of the importance of organisation to prevent these evils had become obscured.

Justly, it seems, Lord Roberts stated on the 10th July, 1905, in the House of Lords: "The lessons of South Africa have been forgotten (by the nation), and I have no hesitation in stating that our armed forces, as a body, are as absolutely unfitted and unprepared for war as they were in 1899-1900." The nation, however, has not forgotten the absolute neglect of sanitation in the South African War, the fatal lists of "enteric except otherwise stated," and, in common with the leading thought in the Army, impatiently awaits an organisation—methodical, continuous, and complete—to prevent these evils. During the South African War the Army authorities were waiting for reports of American experiences in the Philippines, as regards sanitation and water supply, and now all sanitary reforms are held up pending reports from the Japanese Army. Considering that the foundation of any preventive methods is based upon the scientific results attained by research in this country, it is not creditable that in the Army we should neglect to take the lead in organisation to obtain the results that research has made possible. It was consequent upon this attitude that the condition of the British Army at Bloemfontein was precisely similar, from the point of view of sanitary organisation, to that of the Royalist and Parliamentary Armies close to Reading in 1642, as Dr. Willis, then at Christchurch, Oxford, states: "Both sides could not fight, although close to each other; either side left off and fought, not with the enemy, but with the disease, being beset with a heavy and long languishment."

Doubtless a similar explanation of the impasse was given in 1642 as in 1900, when Lord Roberts telegraphed: "When we arrived at Bloemfontein we had an abnormal number of sick, due, no doubt, not only to the peculiarly exhaustive nature of the march, but also to the terribly insanitary conditions of our camp at Paardeberg, where the only water available for drinking purposes flowed down from the Boer camp, 1½ miles up the river, which was crowded with dead animals in a state of decomposition." Everyone, of course,

knows that this is precisely what one expects in war; the only wonder is that the Army in 1900 should, in the light of modern methods of prevention, be content to tolerate the conditions of 1642. It was consequent, also, on this attitude that the general officer commanding at Colenso was prepared to inflict a grave blow on national and military respect by surrendering a large garrison and important base because he, with others, had neglected in the preceding months, and even before the war, to initiate the sanitary measures which he knew were imperative, and which, when applied a year later on the same spot, brought distinguished success.

Five years have passed, and we ask if the Army was mobilised to-morrow to march over the same ground, what are the mechanical means, the technique, the training of officers and men at the Army's immediate disposal to escape the precisely similar disasters awaiting them?

In my previous lecture, it was shown that unless special precautions were taken, the incidence of these evils were a certainty in war; that they would cause a loss of efficiency, mobility and strength, an embarrassment of transport, a chaos in hospital arrangements, far surpassing that caused by the enemy's weapons. The accompanying chart (Plan IV.) illustrates this incidence, and the appalling disasters resulting. This chart, representing deaths only, conveys but a limited idea of the chaos produced by disease. To estimate comparatively the paralysing effect of sick and wounded, the columns must be lengthened out twenty-five times in the case of the former, to only five times in the case of the latter. I pointed out how this enemy has arrested operations for a shorter or longer time as in the Civil War in England; the first year of the Crimea; the Russian forces in Central Asia; the French Army in Madagascar; and lately, our own Army at Bloemfontein, the human enemy being often only a passive onlooker.

It was shown that in the midst of insanitary surroundings, often specifically contaminated, considerable bodies of men may be maintained practically unaffected by enteric fever (dysentery or cholera) by suitable precautions. Such was the case in the Abyssinian, Suakin, and Ashanti campaigns; in the prisons of Pietermaritzburg, Lucknow, and Ahmednagar; in Ladysmith after 1901; in the case of the staff of the vast enteric fever hospital at Mooi River, Natal; in the fixed camps and garrisons during the last few months of that war; and in the very large camp of civil workmen constructing the Assouan Barrage. Recently, in war on the largest scale ever known, you have seen in the Japanese Army a demonstration of striking success, following a conscientious attempt to carry out the essentials of the scheme I placed before you two years before this war commenced. There is strong evidence for asserting that enteric fever is entirely preventable in civil life, in camps, and in advancing troops.

I pointed out that to obtain this immunity the following conditions were essential:—

1. A trained "water-section" of 2 per cent. of the strength, non-combatant.
2. A trained "pioneer section (sanitary)" of 2 per cent. of the strength, combatant.
3. The appointment of expert sanitary officers.



4. The training and education of all officers in sanitary methods.
5. The responsibility of all non-medical officers for the executive sanitary work of camps or units.
6. Responsibility of the same officers for the incidence of enteric fever, dysentery and cholera in their units.
7. The education and training of the men in the advantages to be obtained by themselves and their comrades.
8. The transport of the "water-sections" to be used for no other purpose, and largely independent of all other transport. The transport of reserve fuel, etc., to take precedence, if required, of everything except one day's ammunition.
9. The establishment of a tradition that it is dishonourable and a "crime" to use any fluids for drinking purposes not "approved" or allowed.

I further showed that one mule per 100 men will render that unit independent of the general transport for two or three days, supplying it with all the tea, soup, sugar, and fuel required for its two sterilisers during this time; that these two sterilisers will serve 100 pints of sterile soup, cooled to the drinking point, within 9 minutes. The general transport was shown to be vastly reduced.

To-day I wish to invite your attention to the present sanitary organisation in the Army and its consequences, as we see it in the British Army stationed in India and South Africa, and the probable beneficial results that might have been expected during peace under such a scheme as that we have just considered.

The facts, figures, and statements upon which this review is based are the official reports of the Army Medical Department. They mainly refer to the year 1903, the last year for which any reports are published, being a year and a half after the scheme referred to was proposed. In the case of India, I shall have occasion to refer to the years immediately preceding that date, in order to illustrate the points we are considering.

In the year 1903, the British Army was represented in India and South Africa by a total of 97,293. The loss suffered by this force by death, invaliding, and "discharged finally as medically unfit," amounted to 5,995, or rather more than 6 per cent. So great a loss annually to the Army in these countries, representing only the outcome of the struggle in some of the more serious cases of illness, calls for very serious reflection. During this year in this force, in India and South Africa, there were 94,164 admissions to hospital, and on the average, each admission lasted 27·47 days in South Africa, and over 22 days in India. Every soldier in South Africa had, on the average, 21·91 days, and in India, 23·06 days of sick time. Thus, in India, 1,605,275 days were passed on the sick list, and 606,468 days in South Africa, or a total of 2,211,743 days. Over 60 per 1,000 were constantly ill out of the total force.

This amount of illness and loss suffered by the troops in India and South Africa, represents not an unusual condition, the report stating that "the health of the troops in India was exceptionally good," and from South Africa the sanitary conditions are reported as better than the previous year.



When we analyse this sick list, we find it may be divided into the *Avoidable* and the *Unavoidable* (in the present state of medicine). The *Avoidable* illness may safely be estimated at one-third of the total, and in all probability, one-half. The *Avoidable* illness is found to contain a large amount of illness affecting very seriously the after health of the individual soldier and his possible offspring, and, therefore, of great importance to the national hygiene, but not seriously compromising the fighting capacity of the Army.

It is, however, to the remainder or the greater part of the remainder of the *Avoidable* illness that I wish to direct your attention. It consists of a heavy incidence of enteric fever, dysentery and allied diseases, the causation and prevention of which are well known. Their appearance in an Army in the field portends widespread weakening of the fighting strength, embarrassment of the transport, delay and possible paralysis of the whole Army. Hence we must, from a military point of view, regard these *Avoidable* diseases in quite a more serious light. In the future, when suitable means and methods are put in force by the Army authorities, to prevent these diseases, the infringement of orders will be regarded as a serious "crime," to be dealt with accordingly. Men will learn at manœuvres and on active service that everything taken as food or drink must be limited to what is "approved," and that the greatest attention to cleanliness of camp is a duty of the highest order in war. The occurrence of these diseases will be considered as damaging to the reputation of units or corps, and as compromising the individual.

Of these illnesses, if we consider enteric fever alone, we find that in year 1903, the incidence of this disease was more than twenty-four times as great in India, and in South Africa fifty-two times as great as that in the Army in the United Kingdom, the smaller incidence in India being due chiefly to the fact that the drafts during 1902-03 were very largely from South Africa, where they had been extensively exposed to enteric infection for periods of two or more years. Had it not been for this factor, it is probable that the incidence of enteric fever in India in 1903 would be shown to be as great as, or even greater than, averages taken from the previous twenty years. Thus, we find there were 1,366 admissions for enteric in India in 1903, or 19.6 per 1,000, which, compared with the mean for the five years, 1890-94, of 1,398 cases, or 20.4 per 1,000, is practically the same. From the time of the earliest reliable statistics of enteric fever, sixteen years ago, to 1903, the incidence of enteric remains stationary in the British Army in India.

If we turn to South Africa in the year 1903—a year after the declaration of peace—there were 1,155 admissions for enteric fever, or 41.7 per thousand, or twice as great as the incidence in India, and enteric caused 46 out of every 100 deaths.

When we realise that the incidence of enteric in the Army at home has been reduced to one-seventeenth of what it was between 1837-46, that of Gibraltar to one-eighteenth, and that of Malta to one-fortieth, we have a condition in India comparable only, though considerably worse, with that of the Army in England long before sanitation was known, and a condition in South Africa more serious still. As far as the Army in India and South Africa is concerned, sanitary science, in its preventive capacity in dealing with enteric fever, might as well have never existed.

If we consider the chief cause of the remainder of the preventable disease so dangerous to Armies in the field—dysentery—we find some evidence in Indian records of progress in prevention, though in South Africa the incidence remains about the same as in India 10 years ago. It is probable also that some of the improvement in India may be only apparent and due to a large proportion of the drafts being arrivals from South Africa, where the exposure had been very thorough to insanitary conditions. There still remains some improvement, however, in the admissions from this cause, and this is perhaps some consolation in return for the sanitary measures already in force. It is probable also that the prevention of dysentery may be in a measure proportionate to the approach to a state of sound sanitation, whereas in the case of the prevention of enteric fever nothing less than the utmost care in detail throughout the whole period of residence in an infected district is likely to reduce the incidence, a single error in years of care being the undoing of a susceptible individual. The preventive methods to deal effectively with enteric fever must be precise, thorough, and constant, and they cover at the same time all the known avenues of dysentery and cholera. We will therefore limit the discussion to enteric fever. The causation of enteric fever, and the avenues of approach to man are well known, and generally accepted. We may here state that the natural habitat of the bacillus in its virulent form is the human body, and though various media, such as soil, refuse, clothing, and possibly the air, afford it a temporary means of existence, enabling it to cause sporadic cases, yet the chances of its disappearance from a camp or community are very great if its wide diffusion in its human host is prevented by protection of the liquid avenues, especially the water supply, from contamination. The bacillus leaves the body by the excreta, and gains access to another individual by the mouth and stomach. Dissemination in the dry state, as dust particles through the air, is possible, but not common. To estimate the potency of any particular avenue of typhoid to man, it is essential that all other avenues must be rigidly closed at the time. Without this all conclusions drawn from such observations are mere assumptions, and valueless as data. For this reason attempts to indicate the special avenue of enteric in some vast military camps (Bloemfontein, Kroonstad, the United States of America Volunteer camps), absolutely destitute of any organised plan of sanitation and equally devoid of any means of dealing with the epidemics — every avenue of the bacillus being left unguarded — are valueless. If the water and liquid avenues to a camp or community are protected, epidemics will not occur, the disease disappearing after a diminishing series of sporadic cases if duly isolated. If the liquid avenues only are closed, though partially, good results may possibly follow, as in the Abyssinian, Suakin, and Ashanti campaigns. If the most elaborate means are taken in a camp to close the avenues by flies and dust, and the infected liquid avenues are not completely guarded, large epidemics will occur, as at Quetta (1900), and the Boer camp in Ceylon the same year. If the water avenues are protected, and ordinary precautions taken against infection by flies and dust, there will be no epidemic, as in the Barrage camps at Assouan, the cases of prisons, and the staff of the Mooi River Enteric Fever Hospital.

There is no known instance of a community, civil or military, having thoroughly protected itself against all the water avenues open



to the enteric bacillus, suffering from anything but sporadic cases. There is, as yet, no known instance in war or in military camps where the water avenues and other avenues available to the bacillus have been all closed in the sense in which they will later on come to be regarded as closed, that is, under the supervision of specially trained men carrying out an accepted technique. And yet, as I have shown, practical extinction of the disease has occasionally resulted from incomplete efforts at prevention.

We may conclude as follows:—

1. Enteric fever is a preventable disease in armies as in civil communities.
2. The extent to which it is prevented depends upon the intelligent action of the community or camp.
3. The weight of evidence from India, Egypt, and South Africa is immensely in favour of the paramount importance of the liquid avenues, especially at the outset of epidemics. The spread of the disease by the subsidiary avenues, flies, contact, or possibly dust, may now take place; but the main avenues of importance are still the water avenues.
4. It is not possible to affirm that the liquid avenues to an Army are closed unless the sterilisation and distribution of the water are carried out by specially trained men.
5. The greatest need for cleanliness of camps, and precise attention by every man to the instructions concerning excreta is of vital importance, owing to the fact that in the early stages of this disease an isolated case may otherwise be scattering infection broadcast.
6. Early isolation of suspected cases with disinfection will prove of enormous value.

Having drawn your attention to the main lines on which sanitation must be organised to prevent enteric in camps or in the field, I will now illustrate, from official records for the last six recorded years, the manner in which the Army in India and South Africa has organised sanitation in this direction, which I think you will agree with me is ample justification for the title of my paper. I shall note instances of improved methods and of energetic measures of dealing with the danger, springing from individual initiative, isolated instances too often rendered abortive by the passive indifference shown by the Army as a whole.

#### WATER.

In war, no matter in what country, all drinking water is to be regarded as contaminated, and must be sterilised. It is said that the Japanese send forward experts to examine by chemical and bacteriological means water supplies, and mark them as suitable for drinking purposes. Such I believe is also the practice of the German Army. It is an unreliable and generally impracticable method, the chemical examination being useless and the bacteriological requiring 24 hours' delay. Both these Armies, if it be their practice, will have to abandon it, if they are to come up to the standard we have set before the British Army. At present, however, we are concerned with



the organisation and training in peace with a view to war. For this purpose, fortunately for the British Army, a large portion of it is compelled during peace to train in countries such as India and South Africa, where the generally polluted condition of all rivers, municipal water supplies, etc., is known, and other sanitary defects so universal as to very closely resemble the environment which I have shown, it is to expect on mobilisation for war in any country. It is compelled, therefore, to initiate the complete sanitary measures which are to protect it in peace, and it is of the highest importance that these means or measures should possess mobility, and that the Army should not find on mobilisation that portions of its sanitary equipment, organisation, or training possess a local character only, and that in this or that respect it is left at the critical moment unprotected.

What are the measures taken by the Army to deal with this contaminated water at stations generally. The R.A.M.C. recognises the universal danger, and the order goes forth, "All drinking water to be boiled." How is this carried out? Various means are in force, boilers, large cauldrons, steam sterilising cisterns, etc., all possessing the grave defect, immobility. What advantage, then, to the soldier, supposing him thus protected in peace, if, when the order "Mobilise" comes over the wires, he finds himself sanitarily immobile? He is now led forth gaily, naked before his real foe, to find himself, a few days later, at the very moment of all his life and his country's, a helpless, immobile mass on the lines of transport, requiring nurses and liquid food. Is this war; is this organisation?

We will now pass from the means of sterilisation, to the method the Army employs to sterilise this water known to arrive at camp contaminated, and resembling the water which will be met with in war. Every authority will advise you that the sterilisation, storage and distribution of water for drinking purposes known to contain either cholera, enteric, or dysenteric organisms, can only be safely carried out by specially trained men. The Army in India and South Africa employs only untrained men, often natives, consequently the water is frequently unsterilised, and if sterilised, is reinfected through the ignorance of the men employed. The South African Commission on Enteric reported:—"The supply of pure (sterilised) water will never be a success, and be nothing but a myth, until there is in every regiment a water supply staff, whose sole duty is to supply sterilised water." Medical officers in India, who have watched the process of sterilisation, have officially reported it as "a most dangerous proceeding."

In the official report for India (1902), the method of sterilisation and storage, general throughout Indian stations, is described in detail, and no less than 4 or 5 distinct modes of possible reinfection of this supposed sterilised water are given, all of which may happen daily at any tank of drinking water, and concludes: "Short of detailing soldiers to watch every 'bhisti' all the time he is doing his work, it is impossible to protect water in barracks." The R.A.M.C. urged reforms, but the same dangers were reported in 1903. Epidemics have been traced to this "boiled" water, and the bacillus found in it (Lucknow, 1897). The same errors in method are reported (1903) from South Africa, and neglect to carry out the sanitary details or instructions as to boiling, resulted in much enteric (Kroonstad).

I will now give three instances where the sterilisation of water was placed successfully in special hands, but not trained. 1. The Liverpool Regiment in the South African War appointed a water staff, who were relieved of other duties, and kept up a continuous supply of pure filtered water or tea. Three battles were fought on the march. The system was found perfectly successful and feasible. 2. The same was done by the Naval Brigade employing nothing but boiled water for six months on the march. In both instances the men were not allowed to drink from any other source. 3. At Standerton (South Africa), in 1903, report states, "the sterilisation of water reached a state of perfection not approached by any other station. It is chiefly due to the thorough methods adopted for boiling and filtering drinking water that the freedom of the garrison from enteric and allied diseases during the latter part of the year must be attributed. A special staff of men were detailed to superintend the work."

We see then, that the Army sanitarily immobile by reason of equipment, even if provided with rapid mobile sterilisers, admirably adapted for field service, the invention of which is entirely due to civil initiative and seems but little to interest the Army, would not be in a position to make effective use of them, having no trained men upon whom they could rely, and without these I have shown, no certain results could be obtained.

Thus the soldier would still find himself immobile from sickness beside his steriliser in war, as in peace, complaining, as was recently the case in the *Times*, "all our schemes for sterilisation of water by boiling or otherwise have had no effect in controlling its incidence." To expect that a poor ignorant outcast "Bhisti," without training, is for a mere pittance, going to interest himself in the details of the sterile drinking water of your barracks, "by order of the Regimental authorities," and what is far more important, conduct you safely though the turmoil of war to the front and there keep you efficient, is the last thing in quixotism.

Supposing, however, the safe delivery of this water by trained interested hands,—i.e., by a "water-section"—is provided within the barracks, and that the admission of articles from without liable to carry infection to the soldier within barracks, is also placed under the control of this trained man and his trained superior (whoever he may be), still, the field of liquid opportunities open to the bacillus for attack is not confined to the barracks in peace, or to the camp in war. In either case, on detached or outpost duty in war, or during time spent on duty or off duty beyond the barracks in peace, he will have numerous opportunities of exposure to infection.

How are these dangers to be met? In war by providing the soldier on such duty with similar minute sterilisers on a portable scale, and in peace by an extension of the area of duties of the trained "water-section" to the possible or allowed haunts in the bazaars, etc. The "water-sections" of units or corps being interested, as I have said, either by promotion pay or distinction, in the results of their work, will know how to secure these haunts rapidly and continuously. They will carry the technique of their barracks into bazaar restaurants, "Soldiers' Homes," "Salvation Army Homes," "Royal Army Temperance Institutes," rifle ranges, etc., places known to have been responsible for a vast amount of enteric and allied illnesses.

How does the Army in India or South Africa protect the soldier beyond the barracks?



Though some of these places receive occasionally some attention, there is no attempt at continuity and trained method. Considering the bazaars and resorts generally, there can be no question that, however finely conceived and carefully executed the organisation against enteric in a camp or barracks might be, the daily opportunity open to the men of infection through drinks or food in the restaurants of bazaars or towns, will continue to undo completely this one-sided attempt to obtain results. In these resorts the rule is polluted drinking water, polluted aerated waters, food of all kinds unprotected, butter, milk, ice, raw vegetables, salads, etc., all contaminated and sold largely to regiments, and to individual soldiers. Station after station records epidemics caused by these bazaars, and arrested or diminished when the bazaars were placed "out of bounds." This grave danger is drawn attention to in every A.M.D. Report. The free access of the men to these numerous unprotected avenues of enteric rendered the elaborate experiment undertaken by the R.A.M.C. at Quetta (1899-1900) of making the barracks and camp a model of cleanliness and sanitary organisation, especially against infection by flies and dust, quite abortive, terminating in the largest epidemic in India for that year.

In 1900 the medical officer for Peshawar stated: "Enteric fever will continue to decimate the troops in this country *until regimental bazaars with their overcrowded and insanitary population are abolished altogether.*" If such a step were taken, well and good; but if they are retained they must be rendered safe to the men, and the men, by education, safe in the bazaars, I would propose that the men should indicate the resorts where they wish to take drinks or food. The owners are forthwith asked if they are ready to conform to the methods that will be applied and inspection whenever necessary. The signal is then hung out indicating a resort as approved, the "water section" supply the mineral waters from the unit or corps at less than the native price, and place it on the Army shelf they themselves fix, and show the owners the method of sterilising glasses, etc., covering eatables, and storing sterilised milk. On returning to barracks the soldier reports whether he has drunk anything, and where, to a recording "water section." It will not be long before the owner of the restaurant is either doing a flourishing business or his business is wound up; the same applies to the various homes or institutes frequented. Certain articles, such as salads, raw vegetables, strawberries, melons, etc., will have to be interdicted altogether, on account of difficulty of sterilising, or grown in special gardens under supervision; the same applies to the admission of lucerne to barracks for horses, which is often contaminated with enteric bacilli.

It will be observed that when all is done to make it reasonably certain that the willing soldier will escape the water avenues of enteric in barracks, bazaars, and in the field, there still remains the reckless or wilful soldier to be dealt with—the man who will drink at the swimming bath, the washing water tap, or the irrigation channel. He can only be protected by other means. It must at once be taught that the man who will risk enteric in barracks or at manœuvres will probably do so in war, and such a man is a coward. Just as enteric must be regarded as a disgrace to the unit or corps, so must it be to the individual. He must be taught that to get enteric is to disgrace his regiment, to endanger his comrades, and is liable to hinder the reward due to his "water section" for success.



In India and South Africa regiments and corps must annually be listed in the order of sanitary efficiency; those at either end of the list will soon become distinguished by suitable epithets. These lists would be posted prominently in barracks, and it would be obvious that generals arranging campaigns would prefer to have the "Sterilised Fighting Dragoons" or the "Bacilli Guards" at the front for more reasons than because they would not have to carry them back to the base; whereas such duties as guarding hay-stores or towns not far from the base hospitals, or minding the cows, would be suitable employment for the "Liquid Nourishment Rifles," the "21st Safe-Range Field Artillery," or the "Devil's own Headaches." Doubtless, officers, "water sections," and comrades would soon bring effective means to bear to bring such perverse men, if they exist, into line.

*Aërated Waters.*—Before leaving, for the present, the liquid avenues of the bacillus in camps, which must pass under the control of the "water sections," mention must be made of aërated waters. Countless soldiers have gone down with enteric in India and South Africa from polluted soda water, etc., sometimes made in bazaars or towns and sometimes by regimental factories, in the former practically always, and in the latter not rarely, contaminated or liable to be. In 1903 in South Africa numerous specimens were examined at the Army Medical Laboratory from various towns; gross pollution was found in the majority, those of Pretoria being found even more polluted than the polluted municipal water supply from which they were made. A big epidemic was raging in the Pretoria garrison at the time. I think you will agree that the toleration of any badly prepared and infected mineral waters in garrisons, in hospitals, in the permitted bazaar or town restaurants, on the line of march, or in travelling by rail, being easily preventable, is criminal, and should no longer be allowed. Sterile mineral waters, prepared under the supervision of "water sections" and their superiors, should alone be allowed in the Army abroad.

I have now, I think you will agree, amply justified the demand made four years ago for an organised trained "water section," controlling all the liquid avenues open to the men in barracks, bazaars, and in the field. I have shown that water, the one thing important in sanitation in war and peace, is practically no trained man's business in the Army, that the methods are hopelessly defective, and only partial in action, and that the present high incidence of enteric is directly due to these causes.

#### PROTECTION OF OTHER AVENUES OF ENTERIC.

We will now pass to the consideration of the diffusion of enteric by the remaining avenues; by flies, and possibly by dust. I have said that if the water avenues are closed there will be no epidemic—at least there is no instance on record—only possibly sporadic cases. These cases, in the absence of direct evidence, may be attributed to the action of flies or direct contact. Surgeon-General Sir T. Gallwey recently stated he regarded the enteric in South Africa as caused by the "grime, dust, and dirt of war" rather than by water. This opinion is not borne out by expert opinion or evidence from any country. The present Professor of Medicine at the R.A.M. College reported, after a searching inquiry in Natal in 1898, conclusively

against this view, and in a direct contrary sense. Dr. George Turner, Medical Officer of Health for the Transvaal, engaged by Lord Roberts in the sanitary organisation of military camps, after six years' experience in South Africa, reported in 1902 on the causation of enteric in the Army. After concurring in the inconclusiveness of the reports of dissemination by dust of enteric in India, he states: "I have never had any reason to suppose enteric was attributable to either dust or flies. . . . On one occasion only had I any grounds for supposing that dust was concerned in the production of enteric, and on that occasion the dust appeared to have acted through the agency of water used for drinking." He concludes: "Emphatically, enteric in South Africa is almost entirely due to polluted water." The late distinguished expert, Dr. Washbourn, reported during the war in the same sense. The Expert Commission on Enteric in South Africa reported: "The most conspicuous sanitary defect almost everywhere in this campaign has been the impurity of the drinking water. The matter was viewed as one of the exigencies of war which it was impossible to remedy, *instead of as a serious difficulty which, under any circumstances, must be overcome.*" I have, moreover, shown elsewhere that in every instance in India recorded up to 1901, where epidemics have been attributed to these causes, that the evidence is not clear, and the water avenues have been open to the men.

I have quoted these authorities in support of the statements that if the water avenues are protected only isolated cases can occur, and if these are properly handled no epidemic can occur. In actual practice I have shown that all experience in the Army and in civil life is in accordance with this statement. It is of vital importance to the Army to realise this, and not to be led into supposing that if they protected the water avenues they would still be scourged with epidemics of enteric. With a view, however, to at once preventing any possible chance of infection by these avenues, a proper system of camp conservancy is imperative, and in this all authorities are agreed.

Considering the great importance attached by the Army Medical authorities to the proper disposal of excreta of camps, we should expect to find the greatest precision in carrying out the methods prescribed and the strictest supervision of the same. In India and South Africa there is, however, neither one nor the other. From numerous stations grave neglect of instructions is the rule. From Poona, Nasirabad, Meerut, Umballa it was reported the men will not carry out the system prescribed. The sanitary officer reporting from Umballa in 1902 states that as a result of numerous inspections of latrines in every station of the Punjab, the soldier practically never carries out the orders for the protection of this avenue.

From South Africa (1903) the same negligence is frequently reported by medical officers, and at some stations Kaffirs were employed to do the work the men themselves should have performed.

I think you will agree with me that the creation of properly trained "pioneer section" men, having as duties the surveillance of camp cleanliness, and the authority of camp police, to see that the men carry out the orders and instructions laid down, cannot be delayed, and that toleration has gone too far in this direction as in others.



We have seen that with suitable organisation the access of enteric to camps in infected countries can be prevented, but only by the creation of "water-sections" and "pioneer sections" in every regiment or unit, the former having no other duties whatever. The organisation of the sanitary service I will refer to later.

I will now draw your attention to the manner in which the Army in India proceeds to take the field sanitarily. "Field service, in the train of which enteric always follows," is an axiom of every Army Medical Report from India. From manœuvres and marches numbers of cases are reported at numerous stations throughout India, all attributed by the medical reports to drinking polluted water. I have shown that, if ordered to mobilise, the Army in both these countries is unable to do so, and is unprotected, both as regards equipment and *personnel*, to meet this certain danger of field service. There is no better field in the world than North-West India and neighbouring countries for demonstrating this fact. There is nothing more certain than Lord Roberts's prediction, always supposing the present toleration continues, that "we must be prepared for a much larger percentage of disease" even than in South Africa. The experience of the Afghan War, with a death rate of 80 per 1,000 from water-borne cholera, supported by all subsequent frontier operations, and the experience of all Indian manœuvres, leads practically to the axiom that the moment the Indian or South African Armies take the field, imperfectly educated, trained and equipped in sanitary methods, as they are, the rise in preventable disease will infallibly point to the coming disaster that will paralyse them as a fighting force.

To meet this, what were the arrangements of the Khyber Field Force? Not a single one of the essentials I have laid down was in force. The supply of boiled drinking water was in the hands of untrained natives, distributed in pakhals, and the soil around the camp was in a "generally polluted state." After the epidemic had claimed every sixth man in the force, arrangements were made to clean up the camp, discard the pakhals, placing the boiled drinking water in galvanised iron tanks. The report states that with the completion of these arrangements the epidemic came to an end.

To realise the danger to which the Army in India would be exposed on mobilisation, consider the arrangements four years later (1902) at the Delhi manœuvres. Wells found to be polluted and presumably in the enemy's hands, "were ordered to be cleaned out before the manœuvres." For the first five marches out of Umballa it was possible to examine a number of wells in advance of the troops. This was done, and the wells cleaned out by sappers and miners, portable pumps were fixed, and the water treated with permanganate of potash. Without stopping to enquire how a sapper or miner can "clean out" a well, so as to render it sterile, or what permanganate of potash could do in this direction, it is obvious that such proceedings, being impossible in war without the enemy's sanction, render the manœuvres from a sanitary point of view a mere farce. Unreliable and superfluous to an Army properly equipped to prevent disease, such measures only indicate an Army without sanitary organisation or confidence. Should it be the misfortune of this country, as Lord Roberts foreshadows, to place an Army of half-a-million men on this frontier under such organisation and methods, we should most certainly find it paralysed by disease. If, however, the Army can be induced by your efforts to carry out earnestly the details of a



scheme embracing the "essentials" I have stated, then it will have added to this mobilised force three army corps in strength, and a degree of efficiency and mobility otherwise impossible.

*Organisation.*—Sanitary organisation in an Army consists of four factors, using the terms in a general sense:—

1. Educational.
2. Recording and administrative.
3. Controlling.
4. Executive.

The "educational" and "recording" factors are obviously the function of a special Sanitary Medical Service, the "executive" factor is fulfilled by the actual sanitary sections, *i.e.*, the "water-section" and "pioneer section." These three factors were provided for in the "essential conditions" I placed before this Institution four years ago, and met with approval. A year later the Report of the Expert Commission on Enteric Fever in South Africa corroborated their importance. Recently, they were embraced in the organisation proposed by Colonel Firth, R.A.M.C., the distinguished Professor of Military Hygiene, so that I think I may say all authorities will agree that these factors must be provided for in the manner proposed. As regards, then, factors 1 and 2, as I am in accord with Colonel Firth, I will briefly outline his recent proposal.

A Sanitary Bureau, to be established as a section of the office of the Director General of the Medical Service. The Director of the Sanitary Bureau to be responsible for the whole sanitary effort and organisation of the Army. Under him are the Sanitary officers of commands, divisions or districts. Their reports of the incidence and causation of outbreaks of preventable disease would form the records for future action.

There remains to be considered factor 3, Control, and in this is comprised the question of responsibility. It is a factor of great importance, and concerning it there is some difference of opinion.

At the outset I may affirm that to obtain success three conditions are important:—

- a. Control and responsibility should be vested in the same officer.
- b. Control and responsibility should be associated in this officer with capacity to obtain the results required;

and further, as the control of these diseases cannot be assured "by orders" alone, but requires the interested and willing support of the whole Army, and those directly concerned in sanitation, the third condition follows,

- c. That success be recognised by distinction in a suitable form to officers, sanitary sections, and units.

Now there are practically only two modes of carrying out the controlling factor in sanitation, and one or other of these will be adopted.

A. That proposed by Colonel Firth, R.A.M.C.

In this scheme the trained responsibility and control is vested in the Sanitary officers to commands, divisions, or districts, who would be directly responsible for all practical sanitary effort. They would

act as staff officers, issuing instructions "by order" of the officer commanding. In the case of smaller areas or units the various officers in medical charge would, as regards sanitation, be held responsible by the Sanitary Bureau. The sanitation of individual lines or barracks, would devolve upon the officers commanding the units in occupation. The disciplinary or corrective measures in the case of sanitary default to be the direct outcome of inspection and action on the part of the sanitary officer, acting "by order" of the local commanding officer.

The points for consideration in this scheme are:—

1. The officers of units actually controlling the work of "water sections" or "pioneer sections" in individual lines or barracks are not held responsible for the results following, and so the first condition is not fulfilled.
2. The same officers being deficient in the trained capacity to obtain the results required, the second condition is not fulfilled.
3. The condition of the recognition of success is not fulfilled, apparently, success being attributed not to the officer controlling, but to the sanitary officer inspecting, who is alone held responsible.

It would appear that unless the officers of units are trained in sanitary matters they cannot properly control the work of sanitary sections placed under their command, nor could they be held responsible. For this reason, presumably, Colonel Firth throws the onus of responsibility for defaults upon the sanitary officer, and he, in his anxiety to secure success, by frequent inspections, would apparently become the source of considerable friction both to the much-inspected sanitary sections and to the officers of units, under whose control these sanitary sections are placed. Moreover, in the case of defaults, the expected new "instructions," descending "by order" from above upon these latter officers, would hardly tend to make the sanitary officer's inspections welcomed, and this again would tend to lengthen the intervals of inspection, until the outbreak of disease from imperfect control and due to a default many days prior would call for a special sanitary inspection, when the evidences of default had long been covered up, and the sanitary officer upon whom the blame is to rest would be compelled to report favourably of those really in default.

*B.* The other mode of placing responsibility and control is that to which I have previously, and I now again, draw your attention. This scheme accepts the present system of control by officers of units or corps, but requires that the trained capacity to exercise this control is assured, and then centres the responsibility for results obtained in the same officers. It assumes that the success hoped for depends ultimately upon the careful work of the two sanitary sections, provided alike in both schemes. These sections, having received from the sanitary officers the training in methods to be followed, are then placed under the control of officers of units of which they form part. According to this scheme, the officers of these units have received instruction in the same methods, and are therefore fully competent to control these sanitary sections and to criticise their technique. The frequent inspection by highly-trained medical officers becomes unnecessary, and would introduce a dual control, diminished interest



and feeling of responsibility. Non-medical officers would require a short course of instruction at a school of sanitation, covering the same ground as the two sanitary sections, with a practical examination in inspecting a model set up of an Indian, or other, camp or barracks, into which one or other of the usual possible defects indicated by their "Handbook of Sanitation" had been introduced. It would presumably take an officer a fortnight or so, once in his lifetime, to be quite competent to control routine sanitation in a camp or barracks.

The officer of a unit having thus, and thus only, acquired the same capacity as a sanitary officer to obtain the results required, takes over the entire responsibility for the occurrence of these diseases, and the possibility of distinction, promotion, etc., which I have shown success must carry. Under this scheme the advice of the sanitary officer would be eagerly sought by every officer in order to secure success, and his visits of inspection would be welcomed rather than the reverse. In the case of the outbreak of disease, and a consequent sanitary inspection, every effort would be made rapidly to discover and remedy the defect, rather than to conceal it. The result of these inspections would be reported directly and confidentially to the Sanitary Bureau by the Sanitary officer, credit or otherwise being referred to the officers concerned; the recommendations for distinction being made by the Director of the Sanitary Bureau and given effect to by the Army Council at fixed times; an immediate report dealing with the causation of the outbreak and its remedy being handed at the time to the officer commanding.

It will be seen that control, responsibility, and trained capacity are, in this scheme, all combined in the same officer, and that great weight is attached to stimulating the active intelligent interest of all concerned by the assurance that success following earnest effort will bring distinction on the individual, the unit on the corps.

That non-medical officers are highly capable of carrying out these controlling duties effectively and with distinction is demonstrated by numerous reports of the Royal Army Medical Corps, and is supported by the report of the Commission on Enteric for South Africa, which states:—

"There are many exceptions in which keen and brilliant soldiering has been associated with particular attention to sanitation, with the result that the regiments fortunate to possess these officers have enjoyed good health, and hence had the largest available force."

That there is nothing difficult in the practice to be followed is evident, the difficulty only being to assure continuity of application of the details.

I have placed the two schemes, on this particular point, side by side for your consideration, as one or other must certainly be adopted without further delay, and it would seem that to ensure effective and smooth working they deserve serious consideration. If you concur in the latter view, that the officer commanding a unit is the proper person to control sanitation in that unit, then I think you will agree that we are justified in requiring that a "School of Sanitation for Officers" is established forthwith, that a "Handbook of Sanitation" for the field and the barracks is provided for officers, that all officers are instructed in the simple, orderly, and effective detail of technique to be followed to protect the avenues by which the real destruc-



tive agent in war—the bacilli—approach their men, in order that they may be competent to undertake with confidence the “grave responsibility” placed upon them by paragraph 669A of the King’s Regulations, referring to “the preservation of the health of the troops,” which at present must remain to them a dead letter.

In placing these proposals for consideration before the members of this distinguished Institution, I am, as a layman on one side of this question, conscious of numerous shortcomings, which the actual experience of war and of Army organisation of many of those present will doubtless be able to correct and illuminate. Conscious, as I am, of the full ability of the Army generally, if properly directed, to attain the object desired, and of the capacity of the Royal Army Medical Corps to grapple with this problem, I am at a loss to explain the condition in which I have shown the Army to be—sanitarily immobile, sanitarily unequipped for the field, sanitarily untrained and unprotected in an effective sense, both in peace and in war.

Lieut.-Colonel W. HILL-CLIMO, M.B. :—As the oldest medical officer in the room, and with no little experience of enteric fever in peace time, I desire to make a few remarks upon this very interesting lecture. With much that Dr. Leigh Canney has said I agree, though I dissent from some of his conclusions. The subject in its entirety is unfortunately too vast for discussion in the limit of time at my disposal. But it will not be out of place, by way of showing that I approach the subject after mature study, for me to say that between the years 1889 and 1893 I officially reported to the military and medical authorities in India the failure of the trench system of conservancy, the sub-soil pollution of cantonments, and the consequent contamination of the water supply with the germs of enteric fever. I also showed how the food supplies were similarly poisoned by dust and flies. I agree, therefore, with Dr. Leigh Canney that water is the most frequent avenue for the ingress of the disease into the human being. Yet in doing so I do not for one moment wish to minimise the importance of the other avenues of admission in standing camps and in armies in the field during war. To do anything to induce such a belief in our Army will have the most disastrous effects on its health efficiency during war, for it must be remembered that “dirt breeds disease,” and that the person of the soldier, as well as his environment, equally requires sanitary attention. The internal causes of disease in an Army, as well as the external, require the most careful attention. If these causes be considered so far as our Army is concerned, it may be safely laid down as an axiom that we can despatch no Army from our shores in time of war without its taking with it, and breeding in itself, the germs of enteric fever, for these germs are never absent in an Army raised and trained as our Army is. To illustrate the difficulty there is in tracing the avenues of admission of enteric fever, and of the development epidemics, I give the following instance, which is one of my Indian experiences. In most cantonments it was the custom for each regiment to have a wooden block placed in the open near the ration store-room for chopping the meat ration before distribution to the companies’ orderlies and removal by the kitchen cooks; every cantonment swarms with pariah dogs, or at least they did in those days, and by them these blocks were not infrequently licked. In investigating the causes of a particular epidemic of enteric fever I learnt that pariah dogs in the cantonment were dying in large numbers from fever accompanied with

diarrhoea. A very able medical officer at my request made a series of *post-mortems*, and found that the lesions were those of ulceration of the bowels analogous to those of enteric fever. This happened long before the discovery of the typhoid bacillus, but that discovery has confirmed the opinion which was then formed. I mention these facts to show that in the present state of our knowledge of the etiology of enteric fever, the last thing a sanitary expert should do is to dogmatise; a pure water supply in peace time will go a long way to protect communities from the ravages of enteric fever, but alone, in war, it will not protect an Army from epidemics of enteric fever and from dysentery. Time does not admit to go into details. I therefore propose to consider the lecturer's four main proposals. These are:—1. The creation of a "water section" for the supply of pure water in camps and in the field. 2. The execution and discharge of sanitary work in camps and units by non-medical officers, who would be held responsible for the incidence of enteric fever, dysentery, and cholera in their units. 3. The employment of expert sanitary officers, their functions being educational in peace, and advisory and recording in war, the sanitary officers of the R.A.M.C. only visiting camps or units in one of two capacities: *a*. Advisory, at the request of the officer of the camp or unit; and *b*. Critical and peremptory, for purposes of enquiry at the request of the Sanitary Department of the R.A.M.C., and by order of the officer superior to those of the units affected. 4. The creation of a pioneer section trained in the methods of camp sanitation. For the preservation of the health of an Army in the field, a pure water supply and the effective sanitation of camps and units by its sanitary service, whatever that sanitary service in the future may be, are indispensable. Consequently this service must be trained in the technique of water sterilisation, etc., and in methods of camp sanitation. So far, therefore, there will be general agreement; but when the organisation of this sanitary service, and the work which it will have to do with troops in the first line on the field—that is, with troops constantly on the move—are considered, then the officers of the R.A.M.C. and of the Army generally will, I think, part company with Dr. Leigh Canney's scheme. Time will not permit the consideration of details, upon which different opinions are held, but doubtless they will be dealt with by others. I am only concerned with the general principles which are involved in selecting the agency by which sanitary work in the Army should be done. Dr. Leigh Canney fixes the responsibility and gives the control to non-medical officers. In my opinion, this responsibility cannot be enforced, or at least ought not to be enforced, upon any individual, who, by education and training, has not the necessary knowledge. Efficient control over sanitary affairs requires medical knowledge; conception and execution must be concurrent. The sanitary service must be trained by the R.A.M.C., and must be a branch of the Army Medical Service. It is not sufficient for the man who knows to criticise; it is for him and no other to act. Upon the way this work is done by the medical service it must stand or fall. As Dr. Leigh Canney gives Colonel Firth's alternative scheme, which is to all intents and purposes the same as I have for the past twenty years advocated, both in official reports, in the *United Service Magazine*, and in the *Journal of the Association of Military Surgeons of the United States*, it may seem superfluous to offer these observations; but if medical opinion be not united, it will cause delay in the solution of perhaps what is the most important question which affects the military efficiency of the Army in war at the present time. Personally,



I am glad that Dr. Leigh Canney's lecture has given the opportunity of calling attention to what I believe to be the most important duty which should devolve upon the R.A.M.C., and for which he deserves our thanks.

Surgeon-General Sir ANNESLEY DE RENZY, K.C.B.:—There are many points in the able paper just read that I have not been quite able to follow, but there are several points with which I have been familiar for many years upon which I venture to offer some remarks. I would take as a text for my remarks, in the first instance, an extract from the letter published by the Principal Medical Officer of the Army in India at the present time, Surgeon-General Gallwey, who, in a long letter occupying two columns of the *Times*, says:—"But, do what we can, I am afraid we can never abolish enteric, which Dr. Canney claims can be done by his Royal Water Corps." That is a very discouraging statement, and as a practical comment upon it I would like to give you a piece of my experience, which, I think, is really very complete. Since my retirement from the Service, twenty-three years ago, I have been a director of three important industrial companies in Assam. These companies employ collectively something like eighteen to nineteen thousand coolies. With these I am not concerned, owing to the extreme difficulty of getting thoroughly accurate and reliable information as to the diseases from which they suffer; but these companies employ about eighty Europeans, sometimes more and sometimes less, but on an average of twenty years the number cannot be less than eighty. These men embrace men of the Army age, that is, men ranging in age from twenty to forty-five or forty-eight years of age. I receive monthly medical reports on the health of the whole of the establishments of these companies, the natives as well as the Europeans. During the whole of my service in India I was very much interested in the question of cholera and enteric, and I have watched with the keenest interest the reports that I received on the health of the Europeans attached to these companies. The information that I have to give you now is, that not one single death from enteric has occurred in that body in twenty-three years. Assam, I need not tell you, is by no means a paradise of health, and enteric is not unknown there. Our coolies, I am sorry to say, are greatly afflicted with cholera; we have heavy losses among them every year from cholera, but not a single European on our staff has suffered from either cholera or enteric. What is the explanation of that? These men have nearly all passed through my hands. I examine them before they go out. They are all intelligent men. They are told when going out to join these industrial companies, who must live from the profits they make from their industry, that if their health fails they are done for; the companies cannot keep them on as invalids, and I impress upon them most earnestly that the most effective means of protecting their health in Assam is to be strictly careful of the water they use. They have taken my advice; many of them have provided themselves with Berkefeld filters; most of them, I believe, now use boiled water, and the result has been, as I have said, that for over twenty years there has not been a single death or even a case of enteric fever or cholera among them. I may say that the reports I receive of the health of the establishments I have mentioned are furnished by qualified British medical men. I think this case is most significant and encouraging, and I feel perfectly confident, from my knowledge of the British troops and the conditions under which they live, that the rate of mortality can be much reduced. Let me



give you an example of what has been done already. In the ten years following the Mutiny, the death-rate at Fort William was 110 per thousand, cholera, enteric, and dysentery being the prevailing diseases. At that time the water supply of the fort was most defective. There were several kinds of water used. Much of it was taken out of the ditch and some from a gathering ground outside, which was not secure from the countless sources of contamination that exist in the neighbourhood of a great Indian city. The Government were naturally stunned by this great mortality, and the question of providing the fort with a proper water supply was taken into consideration. In the year 1870 the fort was provided with water from the municipal works in Calcutta. I do not know of any other great change that was made. If you walked through the fort it was at all times clean to the eye; but what was the result of the change made in 1870? The result was, that now, for a period of over thirty years, the average death-rate of the men in Fort William has fallen from 110 to a little over 10 per thousand!! I will not occupy more of your time, but, supported by my experience of Assam, and knowing that enteric fever has been very nearly abolished in Fort William, I believe there is very good reason for hoping that it may be far more effectually dealt with than it is at present in the fine climate of the North-West Provinces and the Himalayan stations.

Major T. McCULLOCH, M.B., R.A.M.C. (Deputy Assistant Director-General):—The great importance of the prevention of disease on field service is a matter regarding which there can be but one opinion, and it is because of this importance that it behoves us to carefully sift our evidence, so that we may be able to separate established facts from mere arguments, which, however attractive they may be in theory, may probably fail us when applied practically. I think most men will agree that the most reliable counsel as to the measures which should be adopted for preventing a disease is likely to be that obtained from those who have had large practical experience of it. In all the papers which Dr. Canney has written up to the present, we can find evidence of a large acquaintance with the literature of enteric fever, but little or no evidence of practical acquaintance with outbreaks of the disease. If Dr. Canney would only give us details of the outbreaks of enteric fever with which he has had to deal, and facts as to the results obtained from the preventive measures he adopted, he would very much strengthen his position, and his arguments would come with greater force. I do not mean for a moment to imply that his arguments are unsound, although I do think that certain of his claims are not likely to be realised in practice. For example, he claims that with the application of certain preventive measures there would be "total immunity from water-borne disease" and "enormous reduction of transport," and the only basis for these claims rests on theoretical probabilities. The prevention of enteric fever is by no means the simple matter that claims such as these would seem to indicate. It is one of the most difficult problems in preventive medicine. When people talk of abolishing the disease in Armies in the field, they seem to forget that its abolition from endemic areas in England itself is by no means complete, and that satisfactory results have only been obtained by years of extensive drainage and sewage disposal works, and water supply schemes, such as are impossible during military operations. With regard to preventability, one of the greatest of English sanitarians, Professor Parkes, in reviewing the progress of hygiene in the Army Medical Department Report for 1860, states in reference to Dr. Wm. Budd's

views, which were being published at the time:—"We can only here remark that whatever view be taken (whether the specific poison increases only in the body or in the sewage air), the grand fact is clear that the occurrence of typhoid fever points unequivocally to the defective removal of excreta, and that it is a disease altogether and easily preventable. Typhoid fever ought soon to disappear from every return of disease." Unfortunately, the expectation expressed in this quotation has not been realised. Just forty years later, at the annual meeting of the British Medical Association held in 1901, we find that Dr. A. C. Houston, in opening a discussion on "Enteric Fever in its Public Health Aspects" begins with these remarks:—"Notwithstanding the progress of science and the great efficiency of the public health service, we find ourselves at the beginning of a new century unable to stamp out a disease which is nevertheless still classed as a preventable one. All we can say is, that at the present time the mortality from it is less than it was some years ago." Further, everyone who has a practical knowledge of the epidemiology of the disease knows that it is almost always difficult, and often impossible, to trace the source of the specific poison even when the disease assumes epidemic form, a difficulty which is not lessened by the fact, now almost universally accepted, that a polluted water supply is far from being the only means by which the poison gains access to the body. It follows, therefore, that the application of the attribute "preventable" to enteric fever must be made in a very guarded sense. Dr. Canney states that enteric fever is a preventable disease in Armies as in civil communities—but surely enteric fever is still observed in civil communities, and even large outbreaks are not uncommon. Water is, no doubt, often a carrier of the enteric poison, but if the bacilli are almost exclusively water-borne germs, then one would have expected much greater success than has occurred, in the reduction of enteric prevalence, from the measures taken in India which have proved so efficient in controlling cholera. In the present state of our knowledge regarding the origin and mode of spread of the disease, I fear that it would be outside the limits of fairness to punish a man for contracting enteric fever, or an officer who is unfortunate enough to get an outbreak in his unit. But when breaches of sanitary rules occur, then I see no reason why the punishment should not be made to fit the crime. In the statement relating to the loss suffered by the force in India and South Africa in 1903, the statistics of the final disposal of men invalided has been erroneously included; thus the loss to the two countries, comprising only deaths in the country and invalids sent to England amounts to 4,327, or 4·5 per cent. nearly. If we take into consideration the total loss to the Army occasioned by service in the two countries we find that the percentage is further reduced to 3 per cent., instead of rather more than 6 per cent., as stated by Dr. Canney; and the 3 per cent. embraces loss from all causes, the loss from enteric fever being just under ½ per cent. It would appear to be a very general impression that boiling the water is a new preventive measure, whereas it is a measure that has been in use in the Army for years past. Within my own knowledge it was practised as a preventive measure eighteen years ago, in an enteric outbreak in Mauritius. It has been in almost universal use in India since 1896. Since the war, the troops at all stations in South Africa have been supplied with boiled water, and in one station there is a piped distribution of the sterilised water. The legation guard at Peking has distilling apparatus in use. Formerly, it was almost the universal opinion that polluted water was the only agent concerned in the con-



veyance of the disease; but of late years opinion has considerably changed, and it is now almost as fully recognised that an exclusively water-borne theory will not explain the facts connected with the occurrence of many outbreaks, and the many puzzling points relating to the endemicity of the disease in certain areas. Flies, dust, infected bedding and clothing, and person to person infection are now acknowledged to be potent factors in the dissemination of the disease poison, and have to be reckoned with as well as water-borne infection. In the Army the aim of our preventive measures is to shut off every possible, or even probable, source of infection. In short, we aim at providing the soldier with pure soil, pure air, pure water, and pure food, at giving him healthy quarters to live in, and at taking care that their neighbourhood is also kept in a satisfactory sanitary state. Sanitary officers have been appointed to commands at home and abroad. Part of the duty of these sanitary officers is to educate the officers and the rank and file, in the elements of sanitation and the measures for the prevention of disease. Courses of lectures on the same subjects are given to the cadets at Sandhurst and Woolwich. The School of Sanitation is by no means new, although from the wording of Dr. Canney's paper one would gather that it was he who originated the idea, whereas the proposal originated in the War Office. As regards sanitary immobility, Dr. Canney has forgotten to mention that I myself showed him at Millbank Barracks all the known methods of water sterilisation, from which he might have inferred that the subject was not being neglected. Amongst other means, he saw a water-cart fitted with sterilising filters, capable of providing 200 gallons of sterile water per hour. This cart has been since tried at the Aldershot manœuvres, and has proved the most satisfactory means of providing sterilised water for troops in the field that has yet been devised, and every form of apparatus that has been proposed for this purpose has been most carefully considered, and every known means of rendering water safe has been gone carefully into. Details of the work being done in this direction at the War Office I am unable to give for official reasons. I can, of course, only speak as a private individual, but I can give the assurance that the responsible authorities are by no means taking up the position that as enteric fever is difficult to prevent, it therefore must be tolerated.

T. MILLER MAGUIRE, LL.D. (Barrister-at-Law, Inner Temple):—I should like to speak merely as a member of the community at large and not as an expert. This lecture appears to me to be one of the most depressing things I have ever listened to, and we have not been very much relieved with regard to the future by the debate, so far as it has gone. Manifestly the gentleman who has just sat down is rather well pleased with the state of things which we ordinary people deplore and reprobate exceedingly. His speech was rather optimistic, and a kind of attack on Dr. Canney for venturing to be enthusiastic and throwing his heart and soul into trying to induce us taxpayers to get some value for our money in the shape of an efficient Army. Surely every case of preventable sickness in an Army is to be deplored, and prevention is better than cure, especially in the moving cities called armies. But what harm has Dr. Canney done? Supposing men like Dr. Canney had been listened to several years ago, much might have been done. I listened several years ago to a speech made by Dr. Canney here. Civil enthusiasts like Sir Conan Doyle were present, and at that time Sir Conan Doyle and other speakers like myself asked this plain question: "Can this epidemic or plague,



so disastrous to our Army, be diminished to such an extent that even 500 or 600 fewer men die annually?" The answer was: "Yes." "Then why is it not done?" was our next question. Suppose it cost £10,000 or £500,000, and that the result of spending the £500,000 was to render our Army more efficient, and prevent decay and disease and those long-drawn columns of misery and death depicted on the wall—and all the loss by way of attendance. Suppose that the deaths were only 100 fewer, I say that £50,000 or £200,000 would be well spent. Dr. Canney proposed years ago to increase our military efficiency in a campaign 8 per cent., and thus save millions of money and thousands of lives. We are perishing as a nation through hide-bound officialdom. In war, wise expense is true economy, and if it prevents enteric fever it is brilliant economy. Therefore, Sir, instead of nagging at men like Dr. Canney, let us support them and admire them, and insist on their views being immediately taken into consideration and put into effect. I will do so myself, in spite of ten War Offices, at the hustings during the next election. Nothing can be more wasteful and extravagant than official complacency. We spent £46,000,000 in 1904, and yet we had no Army, no military education, no medical foresight, no guns; we had soldiers that could go nowhere and do nothing—even in Essex. For this enormous expenditure we could not get even water-boiling kettles or hygienic lectures. Lord Roberts says our Army is no better than it was in 1899. I say it is worse—absolutely and relatively—than it was in 1704 or 1808. We have no medical officers; we have nothing—except an Army Council. We would have a very much better Army if Dr. Canney's views were taken into consideration as soon as possible. I thank Dr. Canney most heartily for urging on the members of this Institution to take every step in their power as soon as possible vigorously to support him, so that we may do something at all events to diminish disease, waste, and death. I will not detain you for long, but I should like to read out two or three figures. I lost 181 friends dead in South Africa, and am violently in earnest. Please listen to these figures, and then thank Dr. Canney. I quote from Munson's "Military Hygiene":—

## COMPARATIVE LOSSES (DEATHS ONLY) FROM DISEASE AND CASUALTIES.

		Disease.	Casualties.
<i>Walcheren Expedition, 1809.</i>	British ..	21	1
<i>British Army in Spain.</i>	British .. ..	3	1
		(more than twice the number of men in the army passed through the hospitals during the year).	
<i>Russo-Turkish War, 1828</i>	.. ..	4	1
<i>General Scott's Campaign in Mexico.</i>	..	Losses from disease alone exceeded one-third of the effective forces.	
U.S.			
<i>Crimea—Allies (in 6 months)</i>	.. ..	25	1
French (whole War)	.. ..	3·75	1
<i>French War in Mexico.</i>	French .. ..	nearly 3	1
<i>American Civil War—Federals</i>	.. ..	about 2	1
		(excluding 24,184 deaths, cause unknown).	
Confederates..	..	3	1

	Disease.	Casualties.
<i>Austro-Prussian War, 1866.</i> . . . .	1½	1
Prussians	(very short campaign).	
<i>Spanish-American War, 1898.</i> . . . .	7½	1
Americans	(very short war, unhealthy country).	
<i>South African War. Out of action.</i> . . . .	3	1
British	(long war).	
<i>Franco-German War, 1870-71.</i> . . . .	0·57	about 1
Germans		
<i>Russo-Japanese War (Oku's Army)—</i>		
	(Cases of disease.)—	(Killed and wounded.)
May 6th to December 19th (9½ months) . . . .	about 1	1
	(40 deaths only from disease).	

No wonder soldiers like to serve with Oku and similar chiefs, and shirk enlisting under the direction of sophists, dialecticians, rhetoricians, and fever cultivators. Here is a quotation from the *Times*, but as my time is up, I cannot read it all, but I must, as a citizen interested in our soldiers, quote part of it:—"An immense amount of time and money was wasted in utterly futile and unnecessary so-called experiments to determine questions which Dr. Canney's experience would have enabled him to answer in five minutes. Fortunately there has been no war; but even in time of peace we lose large numbers of men every year from enteric, and this loss has been suffered to proceed unchecked. The Advisory Board made certain recommendations which were never carried into effect, and which appear, from the reply given in the House of Commons on the 10th inst., and quoted by Dr. Canney in his letter, to have remained unknown to Mr. Arnold-Forster, who said that nothing so 'sweeping' had been advised. Politicians do not often appreciate at its full importance the fact that proposals based upon science are always 'sweeping.' Natural phenomena cannot be made the subjects of political compromise, and natural laws must be obeyed in their entirety, or those who break them must pay the penalties of disobedience. In the meantime, and while English officialdom has been talking and doing little else, Japan has applied Dr. Canney's suggestions with complete success, and, for the first time in recorded history, has maintained enormous armies in the field without sustaining appreciable losses from enteric. According to the reports which have reached this country, the medical officers of the Japanese Army precede the men into all new quarters, analyse the soil and the water, and cause guards to be placed over every source of food or drink that is in the least open to suspicion." Now then, am I not right to advise my audience to hearken to our worthy lecturer with all their ears and hearts? Seek knowledge, worship Minerva, don't be too proud to drink boiled water; compel Pall Mall to shake off its apathy as to this most important matter of life and death, and join me in heartily supporting our lecturer for his most valuable contribution to the vital interests of our nation. I saw the last speaker shaking his head when I said that the Japanese could deal efficiently with the prevention of enteric. Is it because he does not believe my statement?

Major T. McCulloch :—Yes.

T. MILLER MAGUIRE :—They are put forth on very good authority. It is not for me to waste any more of your time, so I sit down by saying that I heartily thank Dr. Canney for his admirable lecture.

Professor W. J. SIMPSON (Professor of Hygiene, King's College, London) :—I am entirely in agreement with Dr. Leigh Canney in the views he has so clearly propounded, and I think that he deserves great credit for the pertinacity with which he has advocated the cause of sanitary reform in the Army. His views are bound to succeed in time, and the sooner this occurs the better it will be for the Army in particular and the country in general. As a member of the Commission sent out to enquire into the prevalence of dysentery and enteric fever in the Armies in South Africa, I was specially impressed by two things: one was the bravery and courtesy of the soldier, and the other was the very great loss to the Army of this splendid material brought about by the prevalence of preventable diseases. In two years over 31,000 cases of enteric fever and over 24,000 cases of dysentery were admitted to hospital; in other words, 55,000 men, or more than one army corps and a half were attacked with preventable diseases. The causes were patent enough everywhere; but the most patent of all was that which Dr. Leigh Canney has laid such stress upon, viz.: the supply of polluted drinking water to the soldier. Purification of water for the troops was the exception. It could not well be otherwise, for there was no specially trained organisation with apparatus and appliances whose duty it was under all circumstances to supply pure water to the soldier. There are some who contend that it was not the polluted drinking water that produced the bulk of the enteric fever and dysentery, but that it was the insanitary camps, associated with dust and flies. Although I am unable to agree with this view, yet it is well to point out that the conditions mentioned were due to the same cause, viz.: the absence of any efficiently organised sanitary service in the Army. There were admirable sanitary regulations in existence about water supply, sanitation of camps, and hygiene generally, but these were of little use because there was no regular service whose special business it was to do nothing else but carry out these regulations. This defect in a properly constituted sanitary service was not the fault of the medical department, who were well organised from the medical and surgical aspects of war, and whose time was more than fully occupied in attending to the sick and wounded; but the fault lay in an unfortunate misconception on the part of Lord Wolseley as to the unimportance of hygiene in war, and who, by his opposition to the development of a special sanitary service in the Army, succeeded in practically stifling it at a very early age. The result was that no sanitary organisation worthy of the name existed for the prevention of those diseases to which an Army in the field is peculiarly exposed. Many medical men did their best individually to keep the troops under their charge in good health, but individual effort was liable to failure when the conditions were such that they could only be dealt with by a thoroughly frained and organised service. If there had been a specially trained service to supply the troops with pure water, just as there was a special commissariat service to supply them with food, or a service of Royal Engineers to supply them with bridges, roads, and boats; if there had also been a branch of this service whose business it was to devote itself to the sanitation of the camps and the prevention of the spread of epidemic diseases, there would not have been the immense amount of needless suffering among the troops, and the general in command would



have probably had at his disposal more than an army corps of additional men, instead of having over 55,000 lying ill in hospital. My views as to organisation are expressed in the report of the Commission. They are: That the regiment or unit shall have its water section and pioneer section and camp quartermaster thoroughly trained, and that the regimental medical officer shall be technical adviser to the commanding officer. I agree with Dr. Leigh Canney, that the commanding officer shall be responsible. It would remove a good deal of friction. Beyond this unit, however, I recognise that there must be a separate sanitary service for administration and control of health matters, and I think this would best be formed by the special officers of the R.A.M.C., who may be appointed to this service, having associated with them a few sanitary engineers. There are sanitary questions in standing camps, and even in temporary camps, where large bodies of troops may be encamped for several weeks, as happened on the Modder River, where the services of a sanitary engineer would be invaluable to the chief sanitary officer. A sanitary service composed only of medical experts is likely to come to grief by undertaking too much responsibility without the means of carrying out promptly the work which may be required. I am also in favour of a Sanitary Bureau at the War Office in London, which shall consist of a scientific branch, a general health administrative branch, and a sanitary equipment branch. By the united labours of the Director-General, his Staff, and the civil members of the Advisory Board, a vast improvement has been effected in the R.A.M.C., on its medical and surgical sides; but the progress made in sanitary reform and organisation, and in the formation of a special and distinct sanitary service that cannot be detached for other duties has been, as pointed out by Dr. Leigh Canney, far from being satisfactory. The importance of sanitation in the Army has not yet been recognised as a bigger and greater thing than even the medical or surgical side of the R.A.M.C. This was only to have been expected from the constitution of the Advisory Board. There are no sanitary experts on that Board outside the military member, and until this fundamental defect is remedied, the ideals which Dr. Leigh Canney advocates can only have a very imperfect realisation, and yet those ideals are for the most part practical, and are of the highest importance to the welfare of the British Army.

Dr. W. PAGE MAY, M.D., D.Sc.:—Many of my remarks have been already anticipated, and therefore I shall not detain you long. I have listened with very great interest and profit to Dr. Canney's admirable paper. It seems to me that he has devoted a great deal of time and money to the study of this very important question. He has no axe to grind, and therefore I all the more admire the work he has done. I have seen a good deal of typhoid work in London fever hospitals and other hospitals; also in Egypt, and to some extent in South Africa, and I am entirely at one with him in his main contention that the chief factor in the spread of disease is a liquid one. Of course, there are other means by which the disease is spread, but that is the main channel in my opinion; and there are thousands of physicians in this country, in the United States, and in the civilised countries of the world who are entirely in agreement with that opinion. I have seen a good deal of the R.A.M.C. work, and I am sure Dr. Canney will be the first to admit the enormous and almost insuperable difficulties with which the Royal Army Medical Corps have constantly, every day, day and night, to contend with. But in staring at the blue diagram exhibited, one stands aghast,

because that is not merely a record of the past; it tells us what is going on to-day, and what will go on to-morrow. At present thousands of valuable lives are being lost, and there is no doubt that, with improved methods, that enormous death-rate could be diminished. I will not detain you any longer. Dr. Canney has suggested various methods for the application of his main contention, that typhoid fever is spread rather by means of water that is drunk, water that is added to fruit or salads, or ice, or butter, or whatever it may be, but anyhow, by means of liquid channels. Although his methods may be very good, I am absolutely incompetent to give any information on the point; but I feel that, as a citizen—as we are all citizens of this great Empire—it is a point that should be investigated, and investigated at once, and that its application should be immediately made.

Major C. E. DANCE, M.R.S.I., Adj. 1st Lond. R.E. (V.), late Surveyor Metropolitan Fever Hospitals, etc. :—Having attended Dr. Canney's admirable lecture in November, 1901, and again on 8th November, 1905, at the R.U.S.I., I am venturing to submit a few brief remarks upon the main points of his proposed scheme for preventing the waste of life in the Army under the heading "Enteric." I have been prompted to make this venture by others, who, although not medical officers, have assisted in helping to stamp out this disease under varying conditions and they have urged me to give my views as an engineer of some years' experience in sanitation and the construction and maintenance of temporary and permanent infectious hospitals in the public service; consequently, I must crave due indulgence at the hands of medical officers. From Dr. Canney's paper and his references to the late Secretary of State for War's statements in the House, it appears evident that the Authorities (in spite of our bitter experiences in South Africa) have failed to grasp the real solution of this awful trouble in the Army, as we find on his authority that in August, 1905, the Advisory Board had not made "such a sweeping recommendation" as outlined in Dr. Canney's scheme, but that "sterilisation experiments" were "still" going on (3½ years after Dr. Canney's lecture). Imagine what would happen if an engineer to a Public Board (Town Council or Civil Hospital, etc.) failed to submit a "definite system" for sterilisation of fluids within one month of receiving his instructions to do so. Dr. Canney kindly suggests that the "experiments" might reasonably be completed in two months, and I fully agree with him on that point. Lord Roberts's remarks on July 10th, 1905, in the House of Lords, also show that we are quite as unprepared now as in 1899-1900, and upon the same high authority "the abnormal number of sick on arrival at Bloemfontein was due no doubt not only to the exhaustive march," but to the terribly insanitary "conditions of our camp" at Paardeberg, and he also makes strong reference to the only "available" drinking water being the river which flowed down from the Boer camp higher up. Is anything stronger required to convince any man of average intelligence that the *whole evil* is due to a *proper and permanent Corps* of water supply and sanitation not being maintained as in other Services abroad (the Japanese, for instance, who have had practically no deaths in the hospital returns from enteric, etc., yet the Russians all around them were decimated with infectious complaints)? Assuredly, if we should again be plunged into a big campaign and the same death rolls of "enteric" appear in the papers, the Authorities will have a hard task to explain



away their apathy. The British public are now expecting military matters to be put on a sound basis; and as the present Cabinet and the House mainly consist of clear-headed business men, there is now a grand opportunity for the new Secretary of State for War to use his splendid abilities in this direction, as it is generally believed by all who have "successfully" fought this disease (including some R.A.M.C. officers), that the lecturer's scheme, with some slight modifications, is the *only way* of preventing further troubles in the future wars and in camps of peace operations. Dr. Canney's statement concerning the clean health bill at the Assouan Barrage Civil Camp is a striking proof of what *can be done* by means of proper sanitation, as it must be remembered that there we have a large population of natives mixed with white men and I need hardly refer to the habits of the former, however carefully one may try to obviate the evils of overcrowding in camps. Turning now to the constitution of the proposed "Water Supply and Sanitation Corps" (this is my name for Dr. Canney's admirably devised units), I would beg to refer to the instances in South Africa or the Naval Brigade and the Liverpool Regiment having devised a system of sterilisation of water which rendered those units practically free of enteric or dysentery.<sup>1</sup> At Standerton (South Africa) in 1903, it was admitted by all in authority that the marvellous freedom of that garrison from enteric was due to the perfect system there of *sterilisation and protection of the water for drinking*. These facts appear, to my mind, to show that the "Water Supply and Sanitation Corps" could be an independent unit from the R.A.M.C., if properly organised. Sanitation (and the various appliances, tools and "trades" appertaining thereto) is not the medical officer's province, although he is a very necessary individual in devising some of the best means of dealing with insanitation in "consultation with the sanitary engineers." In civil camps and hospitals I have always found the medical officers fully agreed in leaving such matters as sterilising appliances, water supply, drainage, etc., "in the hands of the engineer" and his "mechanics" and I have often been appealed to by the medical staff in civil institutions upon matters which the doctors have frankly admitted should never have been included in their spheres of duties. These happy little discussions have added greatly to the mutual esteem with which the medical and engineer staffs now regard each other and have resulted in many valuable improvements in sanitary science. I have seen much of the R.A.M.C. and they already have more than enough to do, therefore, to place their officers in charge of the Water Supply and Sanitation Corps, would, to my mind, be a *grave error*. I fully agree with Dr. Canney that all regimental pioneers should be obliged to qualify in sanitation (in fact, I urged this in 1901) and the simple methods of sterilising fluids — including excreta — as the latter method upon the first appearance of infectious complaints is now admitted a wise proceeding (particularly also in cholera and plague camps); the regimental pioneer should be to the medical officer what the Sanitary

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<sup>1</sup> I have since heard that in addition to the system of sterilisation devised by the Naval Brigade and the Liverpools, their officers quite devoted themselves to the "rudiments of sanitation," and that they used their knowledge in a "practical way," having regard to the warm support which officers always obtain from their men when they have a "proper control" over them, hence the result.—C.E.D.



# A R

## OUNDS & DISEASE

DEATHS  $\left\{ \begin{array}{l} \frac{1}{5} \text{ of wounded} \\ \frac{1}{25} \text{ of cases of enteric} \end{array} \right.$

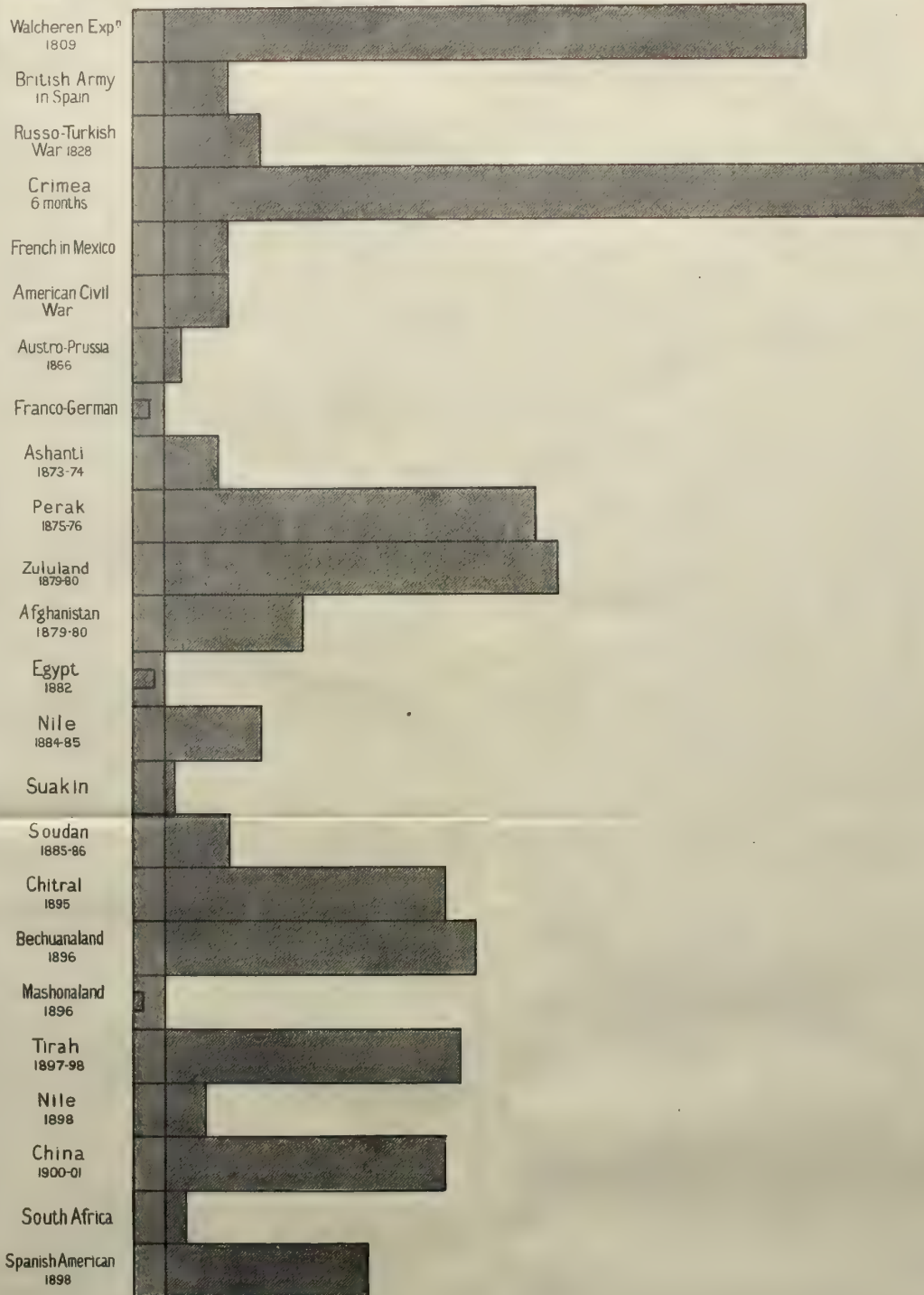




Wounds  
Disease

# WAR DEATHS FROM WOUNDS & DISEASE

DEATHS  $\left\{ \begin{array}{l} \frac{1}{2} \text{ of wounded} \\ \frac{1}{25} \text{ of cases of enteric} \end{array} \right.$



Inspector is to the Borough Council's Medical Officer of Health. The various regulations to be enforced in camps and on the line of march, concerning sanitation and water supply, should be drawn up by the officers of the Water Supply and Sanitary Corps in consultation with the R.A.M.C. officers, and the former should be responsible for the due attention to those orders by all branches of the Service once they have been approved. Regarding other avenues of enteric, I will merely refer to the (to my mind) convincing report of Dr. George Turner, Medical Officer of Health for the Transvaal, who was, I understand, specially engaged by Lord Roberts in the sanitary organisation of military camps there. This officer stated that "he had never any reason to suppose that enteric was attributable to 'either dust or flies,' but that emphatically in South Africa it is almost entirely due to 'polluted water.'" Again, the Expert Commission on Enteric in South Africa reported that the most conspicuous sanitary defect *almost everywhere* has been the impurity of the drinking water. These two reports are, in my opinion, absolutely convincing that we have only to deal with the water question and the cleanliness of the camps in the manner suggested by Dr. Canney. Apart from the method proposed by him, I would beg to urge that some very stringent clauses must be added to the King's Regulations, so that for breach of any permanent rules drawn up regarding water supply or sanitation "when on active service" prisoners may be summarily dealt with by the O.C. the man's unit; to put a man under arrest merely is no object lesson to men probably rushing forward to commit similar breaches of rules. Where a man's act is liable to cause enteric and death to his comrades, I maintain that the most humane act (in the long run) would be then and there to "prevent the consequences of his act being possible." I hope my meaning will be clear to those who have seen men behave like madmen under certain circumstances in the field. The marvellous diminution of enteric in "civil works camps," in Egypt particularly and other hot stations, is due, in the opinion of nearly all civil medical officers, to the improved system of sanitation and water supply devised by the various engineers in charge of the works after consultation with the medical officers, and I believe that if such a corps as outlined by Dr. Canney is brought into being, and adequate pay and encouragement offered to induce officers and men of special sanitary engineering experience to join same, the health of the Army under any conditions of service would be assured; but this could only be if officers of every other branch cordially co-operated with this Sanitary Corps to enforce the regulations for maintaining the health of their men and I think that Regimental officers might receive some tangible recognition according to the yearly hospital return of their units, so as to encourage such good work. In conclusion, I may add that at one period of my service there were over 800 men employed under me in infectious hospitals, and I believe as the result of sterilising all drinks and similar precautions to those advocated by Dr. Canney, only six of those men during 12 months contracted fever. This period was before I had the pleasure of meeting Dr. Canney in the lecture hall, so that I trust my views upon his lecture will be accepted as absolutely unbiassed. In case my remarks may come before any of the medical officers with whom I have had the pleasure of associating in the past, I should like to say that it is largely owing to their kindly and practical assistance and the valuable information given me by them on many occasions, that I have become possessed of sufficient knowledge to justify me in offering an opinion upon this particular subject.



Dr. LEIGH CANNEY, in reply said :--With so many present, distinguished for the part they have taken in promoting the welfare, and especially the sanitation, of the Army, I must regret that the length of my paper has seriously curtailed the time possible for discussion. I had hoped we should have a free discussion on the important point of control and the probable working of the two methods of control to which I have drawn your attention. Under both methods, that proposed by Colonel Firth, R.A.M.C., with the responsibility upon the sanitary officer and the control partly in the hands of the officers commanding units or corps, and that I have proposed, in which the entire control and responsibility are combined in the officer commanding, under both these schemes this officer is trained in the routine sanitation of camps; in the former case he is only very partially trained, and therefore could not be expected to supervise the work of trained "water sections" and "pioneer sections" placed within his unit and under his command. He would require the assistance or control of the officers of the Sanitary Bureau of the R.A.M.C. in the daily inspections. Under the scheme I have proposed, officers commanding would, after a short theoretical and practical course of training in sanitation occupying some three weeks, be competent thoroughly to supervise and control the routine work of the "water sections" and "pioneer sections" in their units, and would be quite competent—and feel competent—to obtain the results expected. The daily inspection of sanitary officers would become unnecessary and out of place, in the same way as it would be out of place for the medical staff of a great hospital to daily inspect the whole routine work of the nursing staff. Colonel Hill-Climo thinks, and rightly so, that capacity and control should be associated. I go further, and I say that capacity, control, and high interest in obtaining the results desired must be associated in one and the same officer. The R.A.M.C. might think that under the scheme I propose they would be relegating part of their proper duties to untried hands. It must be remembered, however, that numerous instances could be given where these hands have not rarely rendered conspicuous sanitary service in times past without education, training in methods, proper equipment, or the trained "water sections" and "pioneer sections" necessary. It has been shown in recent cholera epidemics in Egypt, when the number of doctors was too small, the further control of the epidemic was obtained through civilians, clerks and others being trained in the methods to be followed in a freshly attacked village or town, and they obtained the same conspicuous results as the medical staff. How comparatively easy, then, will be the work of these officers when properly taught, equipped, and provided with trained men to carry out the programme the Sanitary Bureau will have laid down, with the help of their hand-book on the details of routine, and, if further advice is required, the sanitary officer ready to clear up any difficulty. Now I fully appreciate the doubts of possibly some officers of the R.A.M.C. as to the advisability of the step I propose. Doubts which have resulted in Colonel Firth proposing the scheme of control I have referred to, which closely resembles that proposed by Colonel Hill-Climo, an officer who has long endeavoured to promote the health efficiency of the Army. I think if I were in the R.A.M.C. I might propose the same scheme, for the reason that probably these officers entertain doubts as to the readiness of the Army authorities—the Army Council—to grant the conditions I have insisted upon as a necessary part of the scheme of control which I have suggested. When this scheme was originally proposed four years ago, Colonel Firth himself was an advocate of the principles laid down. I believe that this scheme of control will

create a wide and deep interest in sanitation throughout the whole of the officers of the Army, and through them spread to the ranks they command. I believe it is the only sure way to fight enteric and allied diseases effectively. General Sir T. Fraser has added the weight of his opinion, that it is to this sanitary education, involving the whole Army and every officer, from general officers commanding downwards, that we must look for success. Why, then, should we suppose that the Army Council will take the view that the control of these diseases is not the duty of the combatant officer? The Army Council knows that the efficiency of his men is this officer's duty, and here is a cause of inefficiency on a scale far greater than all other causes of inefficiency combined. Here is a source of danger within the possibility of his control, which will undermine battalions and reduce them to mere cadres in a manner compared to which the actual mines and weapons of the enemy are mere playthings. Why, then, trouble the officer to train his men to seek "cover" or to deal with the enemy's mines and explosives, and yet leave the officer and men ignorant of the simple methods required to prevent a twelvefold greater cause of inefficiency within his power to control? Why worry about saving ounces or pounds of transport when you tolerate tons upon tons of useless avoidable transport required by preventable sickness? The Army Council doubtless will develop more advanced, more up-to-date methods, and every officer, general, gunner, engineer, or transport, must each throw in his untiring, unceasing endeavour against the common foe which undermines the efficiency of all services alike. If the Army Council, therefore, gives the training and education necessary to all officers, it must go further and mark the success these officers will attain by patient persistent sanitary effort, by distinction to the regiment, unit, or individual officer in the shape of promotion, reward, etc. If the Army Council admits this principle, then, how is it possible to attribute this distinction otherwise than following the records and report of a Sanitary Bureau and the special sanitary officers of the Army? If the Army Council is prepared to risk sanitary breakdown or disaster by denying any of the conditions which, in your opinion and mine, may materially affect success, then there is no alternative but to pass over all control both of officers and men as regards sanitation into the hands of the Sanitary Bureau and sanitary officers of the Army, though the risk of friction and impaired results by the introduction of a medical imperium within every regiment or corps may be considerable. Personally, I am of opinion the majority of combatant officers would prefer sanitation controlled by the method I have proposed. If this is the case, they must be willing to make themselves capable by a short course of training in a School of Sanitation, and be ready to abide by the careful estimation of their work and results which the Sanitary Bureau of the Army will accord. Major McCulloch says that the School of Sanitation is not a new thing.

Major McCULLOCH :—I did not say the School of Sanitation existed; what I said was that the idea of a School of Sanitation is not new.

Dr. LEIGH CANNEY :—I am glad to hear from Major McCulloch that the School of Sanitation for officers is not a new idea. It is of course the logical outcome of the scheme I have proposed, and so we may take it as a good augury for the future that the R.A.M.C. and the Army are convinced, at least in theory, that such a step is the right one. Attached to the School of Sanitation might be set up a practical camp for



purposes of instruction and examination—a model Indian camp capable of illustrating all the possible defects in sanitation. Major McCulloch has referred to the various agencies concerned in the causation of enteric fever. I think if I might refer him to an article in the *Enteric Fever* number of the *Practitioner*, two years ago, he will agree with me that I have given due weight to the whole of the known factors in its causation. It would be impossible to conceive of a scheme of prevention which did not provide for the isolation of enteric cases and for the organisation of suitable means to prevent flies and dust becoming possible carriers of the disease; and in this connection great weight must be attached to Colonel Hill-Climo's insistence upon the duty of personal cleanliness.

Major McCULLOCH :—Will you allow me to interrupt you for one moment? An idea seems to have got abroad that I have been trying to criticise Dr. Canney's scheme adversely. The very opposite was my intention. I only wanted to point out that enteric fever is a completely preventable disease. As a matter of fact, the views that Dr. Leigh Canney gives expression to in his paper are the views which are held by all Army medical officers, and I have simply been trying to point out to the lay members of this meeting that there were many difficulties in the way of absolute prevention of enteric fever, and I have tried to indicate them. The great desire of the Army Medical Service is to suppress enteric fever entirely. We wish to close all the avenues of enteric fever—the water-borne avenues as well as others.

Dr. LEIGH CANNEY :—I am glad to hear from Major McCulloch that the views I have expressed are the views of all Army medical officers, and I am sure it would be better for the end we all have in view—the efficiency of the Army—that any minor differences, if existing, should not be magnified or distorted in criticism in a manner likely to mislead the public. Major McCulloch pointed out that enteric fever was not yet abolished in England; such was the case. There still remained a residuum due to channels of infection the Public Health Acts were not designed to close; but because the civil community tolerated at present a small residuum of enteric fever, this hardly seemed to be any reason for the Army tolerating twenty-four times this amount in India, and fifty-two times the amount in South Africa. Major McCulloch states that the figure I quoted—5,995—as being the loss to the Army in India and South Africa under the heads referred to is incorrect. In the official report for 1903, however, he will find that this is the total shown under the three causes: death, invaliding, and “discharged finally as medically unfit.” Major McCulloch omits the last group from his figures, but they are included in mine. Sir A. De Renzy has given recent instances supporting strongly his conclusions based on long sanitary experience in India of the power of sterilised water to arrest enteric fever and cholera in camps, and practically to exclude them. Finally, I cannot conclude without congratulating the Army after the cordial and patient consideration by this distinguished audience of the paper I have read, on the growing number of those who believe that the greatest step to be made by the Army towards efficiency is along the lines of organised detail, precision, and unrelenting effort in sanitation.

The CHAIRMAN (Major-General Sir T. Fraser, K.C.B., C.M.G.) :—I am in the unfortunate position of having, as it were, to decide where doctors disagree; but as I am a layman in medical matters, I will not



try. I can only say on your behalf that we are exceedingly indebted to Dr. Canney for the very interesting lecture he has given—a lecture which shows great study of the question and a good deal of thought and anxiety to benefit the health of the Army. In one sense we will all agree with the lecturer, namely, that if we want to save the Army from itself with regard to sickness, we must carry the Army from bottom to top with us. For that reason my last word to you all, especially to the Army and other medical officers of the country who are so competent to judge on this question, will be this: that we ought to endeavour to medically educate and convince the Army as to the importance of sanitary questions constantly, continuously, and effectively. We must remember the conditions of war are not those of peace. In war the best schemes will fail; the most stringent orders will be of no avail, for men will not die of thirst on any one day to avoid the risk of enteric on that day fortnight. All that can be done is to make men realise the gravity of their danger, and the value of such protective means as circumstances permit. I now, on your behalf, cordially thank the lecturer for the very interesting lecture he has given us.

# FIELD ENGINEERING IN THE LIGHT OF MODERN WARFARE.

*By Brevet Lieut.-Colonel G. M. HEATH, D.S.O., R.E.*

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Wednesday, 1st November, 1905.

Major-General Sir REGINALD CLARE HART, H.C., K.C.B., K.C.V.O.,  
*p.s.c.*, in the Chair.

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I HAVE been asked to lecture on Field Engineering in modern war.

Turning to the Regulations for Engineer Services in War, I find that their duties comprise landing stages, roads and bridges, making and working of railways, telegraphs, and balloons, and, I might say, kites, preparation of camping grounds, water supply, canals, field works, electric land mines, attack and defence of fortresses, posts and positions, and any other such engineer services as may be required.

Now, this is much too long a list for one man to go into in an hour, so I propose this afternoon to deal with field fortifications.

Field fortification is a very old and simple science, based principally on common-sense. Judging by the sculptures of the times, the ancient Egyptian bowmen protected themselves by a prickly hedge. The Romans and Britons have left traces of intrenchments all over this country. The Romans, I believe, invariably intrenched themselves at the end of each day's march. Coming to later times, we find that William the Conqueror, on landing in England, brought with him three wooden castles in pieces, all ready for framing (evidently the ancestors of our South African blockhouses sent up in pieces from Durban). The invaders, quoting the old chroniclers of the times, "before evening, had finished a good fort on English ground, and they ate and drank and slept, and were right glad that they were ashore."

The object of field fortifications, according to our latest text-book, is to strengthen ground, and by thus economising the numbers of the defenders, to swell the force available for offensive movements. Nobody will, I think, quarrel with this definition, for in almost every way you look at it this is its true use, making always the reservation that the men economised are not necessarily to be used on the ground selected for defence, but may be used for offensive action, or with a view to eventual action, hundreds of miles away.

Take for example a series of fortified posts on a line of communications. In South Africa Lord Kitchener, realising the value of a few men behind well-thought-out defences, reduced the garrisons of

**TRAVERSED FIRE TRENCH WITH LOW COMMAND.****TIME REQUIRED  $\frac{1}{2}$  TO 3 HOURS IN EASY SOIL.****— SECTION —**



these posts to a minimum, thereby saving up men for action against the Boers elsewhere. The Normans, eating and drinking, and recovering from sea-sickness, were saving themselves for vigorous action at the battle of Hastings. These are, perhaps, rather far-fetched examples of what I may call the strategic use of field fortifications. Their more obvious value is to bring about what may be called a strategical counter-attack, that is, when a general perhaps numerically inferior to his enemy, uses a part of his forces to hold one of the enemy's advancing columns, while, having by a skilful use of intrenchments economised men, he is enabled to throw an overwhelming force against the remainder. With the large Armies of the present day necessarily spread over a great tract of country, there would seem to be special opportunities for this class of work. Kuropatkin seems to have had this operation in view when he held the position at Shu-Shan-Pu (south of Liao-Yang), and moved troops to his left with a view to enveloping the Japanese right. But delayed, no doubt, by the difficulties of the country, he was forestalled by the astute Oyama, and the vigorous action of the Japanese generals saved Kuroki and the situation.

Again, Sherman in 1864, by intrenching a part of his force in front, and making a wide turning movement with the remainder against the Confederate communications, forced these to evacuate many excellent positions.

Talking of counter-attack, I am not quite sure that I believe in the tactical value of field fortifications except for purely passive defence and the material protection given to the men in the trenches. I mean that the days of counter-attack on the defended ground close to the position are, except in very favourable circumstances, over. When I was a cadet at Woolwich, we used to be made to draw plans of intrenched positions, and got bad marks if we neglected to put in a little curly arrow around the edge of the position labelled "counter-attack." In the wars of Frederic and Napoleon, decisive effect was sometimes produced by hurling masses of cavalry against the flank of the attacking infantry. The containing power of the modern rifle and modern gun is now too great. An attacking general who knows his business, will take care to guard the flanks. Infantry attacks take a long time to get to decisive ranges, and there would hardly be time I think for this class of counter-attack to come off, while an attack by masses of cavalry are thought by many to be out of date. The Russians made several attempts, but were, I believe, invariably repulsed. By this I by no means wish to imply that counter-attack with the bayonet—the "Up, Guards, and at 'em" business—is out of date, or that even small counter-attacks are not useful to worry the enemy, but they won't be decisive, and the reserves you have hoarded up by skilful use of ground will have plenty to do in resisting outflanking movements, or may possibly be useful against a beaten Army that night or the next day, or in the event of the defenders being beaten, by taking up a secondary position, they may prevent the defeat becoming a rout.

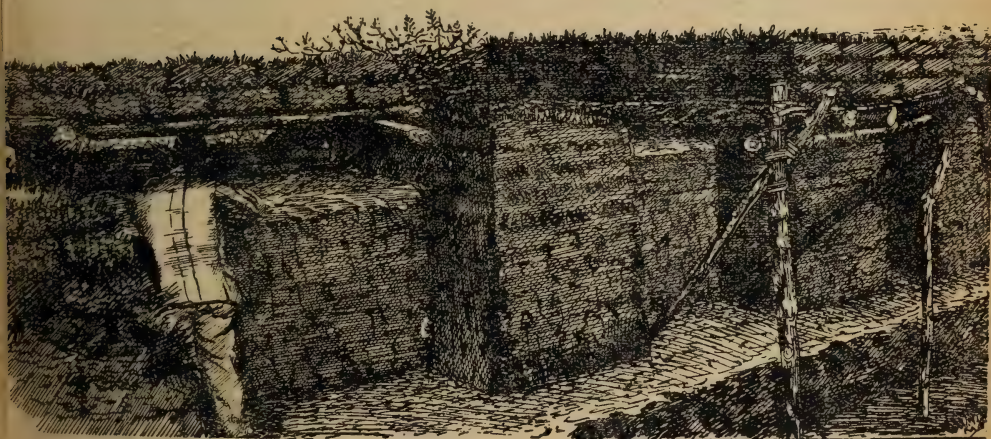
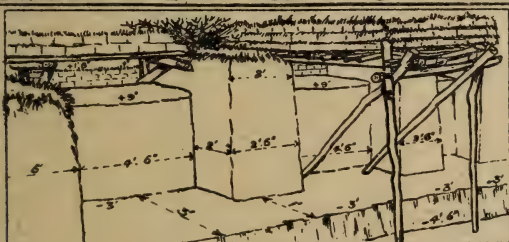
But I am, perhaps, wandering from the subject of my lecture. Having settled that the object of field fortifications is in all cases to economise men, I must endeavour to show how this economy can be best carried out under modern conditions. Now field fortifications like, say, shooting pheasants, cannot be learnt entirely out of books. The first requisites for a good shot are a good eye, that is, the correct

working of hand and eye together, and a knowledge of pace and distance. The first requisites for a good field engineer are a good eye for ground, and a knowledge of fire effect. The eye for ground can only be got by practice out of doors. One of Alexander's generals made an invariable practice, when he was out riding, of setting himself little problems of attack and defence which he worked out in his head on the spot. It is by this sort of study that the eye for ground is obtained. The practised eye for ground will at once recognise the strong and weak points of a position, and if, added to this, he has a thorough knowledge of fire effect—by which I mean the art of obtaining the best possible value from *his* guns and rifles—he will know how to put his defences in the proper place.

## **FIRE AND SHELTER TRENCH COMBINED.**

**FIRE TRENCH DEEPEMED AND OVERHEAD COVER ADDED.**

**TIME REQUIRED IN EASY SOIL 4 TO 6 HOURS.**



The siting of trenches is a most important point, and one that is often not sufficiently studied. The best position for a trench on a given bit of ground is, I know, a debatable question, but to my mind, you cannot possibly go wrong if you put your trench where the best possible fire effect is to be obtained, and this best effect is undoubtedly obtained—provided always you can see your enemy—by “grazing” fire. In the 18th century text-books you will find that the gunners were recommended not to put their guns too high up, for, says the



writer of one of them, "If the gun is placed high up, the cannon ball will only hit the ground once. Have it low down, so that the ball can bound along the ground; it will thus create great havoc if it happens to strike a column of the enemy." We don't use our guns quite that way now, but the principle is the same, the trajectories of the arms in use must be studied. The pictures on the screen are taken from the latest text-book—you are all, no doubt, well acquainted with it. An examination of the diagrams will show you the fire effect produced by a squad of men firing over various shapes of ground. The trench should obviously be sited so as to get as great a depth of dangerous space (for the attacker) as possible.

The best position of a trench for obtaining this kind of fire obviously depends on the nature of the country, for, besides "grazing" fire you want a good long bit of it, four or five or six hundred yards if you can get it. In South Africa, in India, and no doubt in many parts of Manchuria, "grazing" fire is best obtained by going down to the level ground at the foot of the hills. Delarey was a great exponent of it at Magersfontein. Those of you who were there will remember he placed the bulk of his trenches in advance of the foot of the "kopjes," posting a few men firing black powder on the hill above to draw the fire. Delarey thoroughly understood the use of modern rifles with smokeless powder. Again, at Shu-Shan-Pu, I believe, 200 Russians in a trench on the plains held out all day and all night against most desperate Japanese attacks; I hope to come to that later. Many people say it is all very well to put your trenches down at the bottom of the hill, how are you going to reinforce them? How are you going to withdraw from them? I say: "*Do without.*" In the absence of communicating trenches or other cover, reinforcing will be impossible wherever your trench is, unless against all rules it is up on the sky-line, or unless from the nature of the ground you are able to hold a position on the rear crest (which latter position is, by the way, sometimes the most favourable), and in an action you really mean to fight out, you don't want your men to withdraw. Any reliefs necessary can be carried out at night. It is far better to put the necessary number of men in the best fire position, give them all the material protection possible, and let them stick it out. This does not, of course, preclude the use of supporting troops in good fire positions above the main fighting line, but your supports *must* be in good fire positions, not, as I have often seen them, stuck behind a hill where they could never do any good to anybody, and from whence very possibly they could never reach a fire position when most wanted. Another disadvantage of a trench high up on the hill is that in this case the artillery of the enemy can generally cover the advance of the attacking infantry until these are close up to the trenches, whereas, if the trench is low-lying, this close co-operation will be difficult. Those of you who were present at Almands Nek, near Volksrust, will remember how well our artillery covered the attack until it had almost reached the top of the hills. The effect of this artillery fire was plain to the spectators, for the Boers, who, by the way, were on the sky-line, were obviously too "jumpy" to do anything but the snappiest of snap-shooting—many, no doubt, contented themselves with firing over the tops of the rocks without pretending to look over their sights.

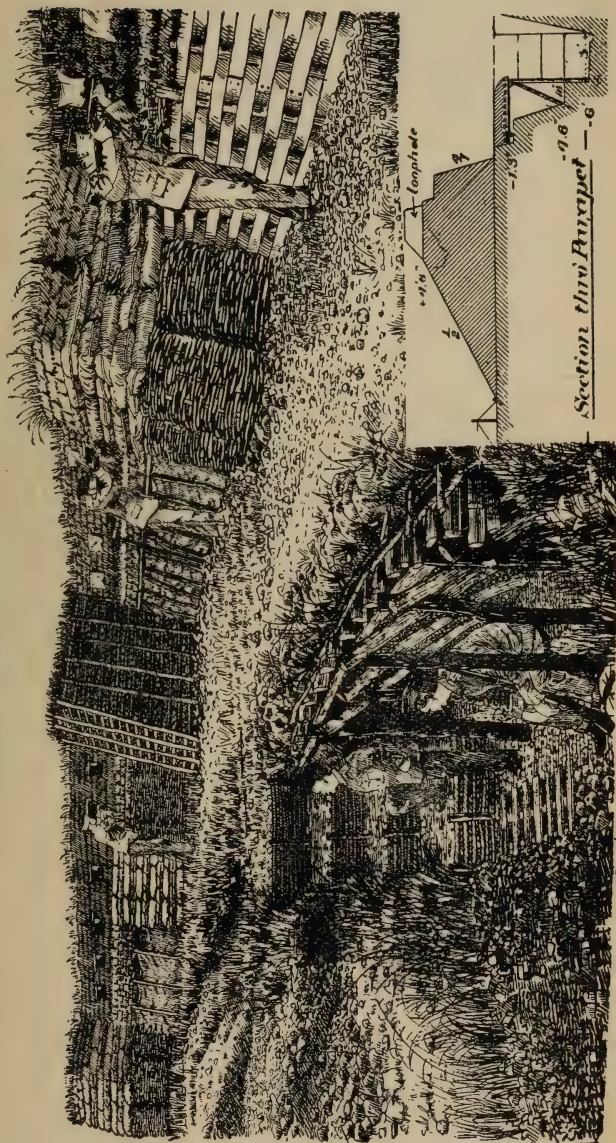
However, in most countries owing to the irregularities of the ground it will be impossible to get a field of fire of adequate depth



## HIGH COMMAND REDOUBT

### WITH TRAVERSES, COVER, & OVERHEAD COVER.

LOOPHOLES BLINDED IN CANVAS ON INSIDE TO PREVENT THEM SHOWING AGAINST THE SKY, & SHOULD BE SCREENED ON OUTSIDE WITH TUFTS OF GRASS & C.



from a trench at the foot of the hill, and some intermediate position will be necessary.

Generally, in choosing ground for the defence, I think we are apt to attach too much importance to high ground. A great upstanding ridge like, say, the South Downs, is a very attractive position to hold; but we must remember that such a ridge also attracts the eye of the enemy, and moreover its slopes are often not very convenient for good fire effect. The ground as a whole need only be high enough to enable the defender to see the enemy's movements while screening his own, though a high commanding point in the neighbourhood is useful as an observatory for the officer conducting the defence. I will go further and say that ground commanding the defence is not always a disadvantage. The position held by the Boers at Paardeberg was more or less commanded by our artillery, but in our first attacks we did not get much nearer than four hundred yards. Again, at the battle of Belfast, the Boers held the foot of a glacis which sloped upwards for about 1,700 yards from the firing line. Our infantry, however, were unable to advance over the crest of the hill, and the Boers held their position for two days, evacuating it when their left was turned. Such a position can rarely be shelled effectively by the enemy; the attackers consequently lose their strongest support.

The fact is, that 30 feet of command at a range of 300 yards, or 300 feet of command at a range of 3,000 yards only, gives an angle of depression of 1 in thirty, or about  $2^{\circ}$ ; hence a comparatively small mound will give shelter, provided the reverse slope, *e.g.*, the interior slope, of a trench is steep enough. The positions held by the Boers on the plains at Modder River, and again at Paardeberg, contained all the essentials necessary for passive defence, except, perhaps, facilities for getting away, and the chief of these essentials were excellent fire positions and invisibility.

Invisibility is, as we all now know, a most important consideration in these days of smokeless powder. When black powder was used, invisibility was out of the question; moreover, high explosive shell had not reached a great development. A good thick parapet to withstand the shell of the day, combined with a strong obstacle, was *de rigueur*. I have here a picture of an 18th century field work, which does not differ much from the sort of profile I was taught as a cadet, or from some of the works—to judge from the newspaper accounts—which were thrown up by the Russians in the early part of the war.

Invisibility is now well understood. It is fairly easy to obtain by careful siting and screening. The art of screening should be particularly studied. Because there are trees or bushes near you, they need not necessarily be cut down; you can often arrange to fire through such obstacles yet be screened by them. If, for instance, you study an orchard in Kent, you will see that owing to the fact that the branches begin some feet above the level of the ground, you can get a good field of fire, often for several hundreds of yards, yet be absolutely screened from the enemy's artillery or a covering party of his infantry beyond.

I maintain that a line of men in an invisible trench are practically safe from shell effect, even under the *rafale* system.

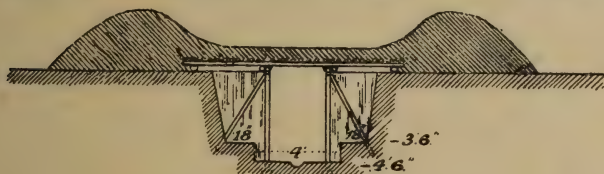
I maintain, further, that a preparatory bombardment against a properly intrenched position is simply waste of ammunition. How



different is the fate of men posted behind clearly visible targets is shown by the unfortunate Russians on the top of 203 Metre Hill, and by the brave Johannesburg Police who defended the kopjes at Bergendal. A newspaper correspondent, describing the appearance of 203 Metre

## — HASTY REDOUBT. —

### BLINDAGE IN REAR OF FIRE TRENCH.



— Section thro' Blindage. —



Hill after it was taken, compares it to a heap of road metal; but of course the defenders here were particularly at a disadvantage as regards shell-fire, because, owing to the hardness of the ground, their defences had to be built up of stones and rocks.



We are told in "Combined Training" that the flanks of the position must rest on obstacles. More often than not, however, these obstacles are illusory. The Russians on the Yalu, and again at Nan-Shan, are cases in point. In the former they appear to have considered the precipitous ground on their left sufficient to secure that flank; but it was just here where the Japanese attack was decisive. At Nan-Shan the flanks rested on the sea, but the Japanese waded through it. The fact is, that in nearly all cases flanks must be protected by men in suitably placed trenches, or by a mobile reserve.

So much for the defence of a position on broad lines. Where time admits, it is obvious that the preparation of a second position to cover a possible retreat should not be neglected.

Let us turn now to details. The details necessary for economising men by protecting their bodies are simple, and the only necessity to enable a person to make a good design—given time, tools, and labour—is again a knowledge of fire effect. But this time we must look at this fire effect from the enemy's point of view; hence the design of works has always varied with the nature of the arms and projectiles of the period. The armoured train and armoured wagon of South Africa are only evolutions of ideas formulated by the ancients. At the battle of Hastings a wattle fence was good enough until the defenders were enticed out, whilst against savages, any wooden stockade or solid fence, backed by good men, will do, as at Rorke's Drift. But against modern shell and bullets something more scientific is required.

I am not one who thinks that salvation is found in the exact form of a trench. The conditions of time, labour, and materials will not always allow you to make the form of work depicted in the text-book, but there are certain principles which must be studied if the object we have in view, that is, the economy of men by protecting their bodies, is to be carried out thoroughly.

As I said before, the first principle is a knowledge of the effect of fire from the enemy's point of view. Let us begin with the gun. The picture on the screen is a well-known plate out of a Chatham text-book showing the angle of descent, and effect of bursting shell. Here again is a picture of a redoubt, filled with dummies, which has been struck by high-explosive shell. Now, to show you how we hope to minimise these effects, I have pictures of the most up-to-date trenches Chatham can produce.<sup>1</sup> I don't by any means say they are the best trenches to make under every circumstance; equally good ones have from time to time been devised. They only represent a type showing one way of applying the materials at hand, and I think they are pretty good. You will note particularly the protection given to a man, even without head-cover, who places himself close up to the interior slope. You will notice various sorts of head-cover and overhead-cover. This latter is particularly useful against shrapnel of all sorts; miles of overhead-cover were made at Port Arthur.

The object of hostile artillery fire being to keep down the heads of the defenders while their infantry is advancing, our main object should be to allow the defender to use his rifle with good effect in comparative safety while himself under this artillery fire. With this object, overhead-cover, or *at least*, head-cover, should, wherever

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<sup>1</sup> The plates referred to are now reproduced in the Manual of Military Engineering, 1905 edition.

# SHELTER IN HIGH COMMAND REDOUBT.





possible, be provided. In arranging these details the offensive power of the rifle should never be sacrificed for protection. This axiom should particularly be kept in mind in designing loopholes, and, from this point of view, the long, shallow (slit) loophole is probably the best all-round type. The size of the opening will depend on the field of fire, a deeper opening being necessary when the field of fire is long and the back-sight has to be used, than if the field of fire is only three or four hundred yards.

In testing a loop-hole, by-the-bye, it is not enough to look over the sights of the rifle, or you may find that while the line of sight is clear, the muzzle is pointing into the roof of the loop-hole. The only way to properly test it is to pull out the bolt and look through the barrel.

Loop-holes are always rather difficult to arrange. To meet this objection, a steel loop-hole plate has been devised, and can be drawn from Ordnance Stores for special purposes. In connection with overhead-cover, I might remark that it has been found that one sheet of corrugated iron placed, say, at a slope downwards from the line of fire of about 1 in 4, is practically proof against howitzer shrapnel. A thickness of two sheets is absolutely safe. In the pictures on the screen you will notice that great care has been taken to screen the parapets. [Types of splinter-proof chambers connected by communicating trenches to the firing line were also shown.]

For a strong defence other things are necessary besides trenches; I allude especially to obstacles. These are useful at all times, and more especially against night attack. They must be under the close fire of the defence, by which I mean from 20 to 100 yards, for although an obstacle 400 to 500 yards off may be good enough in the day time, it is no good having it further off than you can see at night, and the distance you can see on the brightest moonlight night is certainly not more than 200 yards (except against a sky-line). The Russians made this mistake more than once. They put their obstacles so far off that the Japanese were able to cut them at night without serious loss. If you accept my theory of counter-attacks, that is, that a counter-attack will not take place close up to the position, obstacles in front of the trenches can be practically in a continuous line.

Combined with the obstacles we can arrange alarms. These will be particularly useful in the defence of small posts.

The illumination of the foreground by night is a very important matter, and is receiving attention at the present time. Search-lights properly worked so as not to show up your own side are probably best. Their use is now being studied both in attack and defence, and valuable *data* have already been obtained; but we cannot always have search-lights, so we are trying acetylene and other flares. These kinds of lights are portable and give fairly good results. They can be arranged in front of the position with a string running back to the trench in rear, so that the light can be turned on and off as required.

From the attacker's point of view it is desirable to find some means by which the search or other lights can be rendered ineffective. Smoke forms a good screen against search-light. It can be readily produced by lighting bags stuffed with straw, and is effective so long as the wind is not too high.

An obstacle much employed during the late war was the land mine, but they do not seem to have had any real influence against the attack.

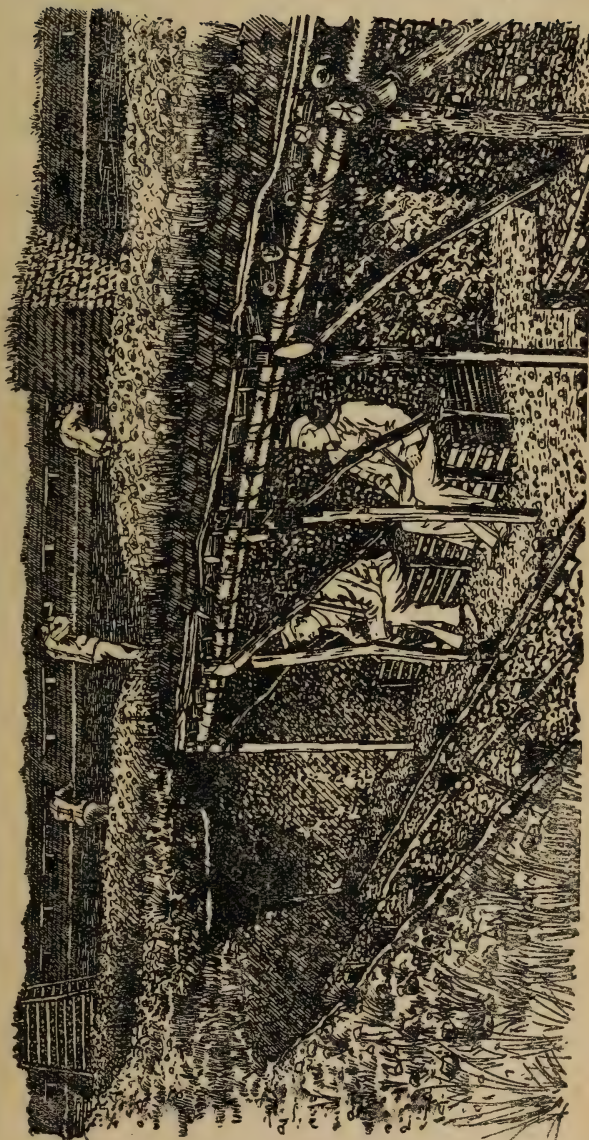


HIGH COMMAND

REDOUBT.



COVER FOR SUPPORTS.



The destruction of wire entanglements seems to be a difficult matter. Even 30 lbs. of guncotton exploded under the entanglement makes only a comparatively small gap. The only reliable method seems to be to attack wires with wire-cutters, bill-hooks, and axes.

Now there is one very important branch of field fortifications which I have not touched on, that is, the use of the spade in the attack. The only way of taking trenches in front and by day is to produce such a heavy covering fire at decisive ranges that the defenders, if not driven out by this fire are paralysed, and an assault by resolute men becomes comparatively easy. These covering troops may have to occupy advanced positions and remain in them a long time; they should if possible intrench themselves. This is usually only possible at night, but attempts are being made to devise an efficient tool to enable attacking infantry to make some sort of cover while lying down. In this connection it is possible that use might be found for portable bullet-proof shields, but bullet-proof steel weighs eight pounds to the square foot; it would therefore be very difficult to arrange complete protection for a man whilst he is advancing. Shields might possibly be carried up to the position to be occupied by such covering troops, and if placed in a line on the ground they would give some protection until a proper trench could be dug; but in any case their use must be very limited.

Modern attacks may take several days to complete, and with every successive advance the men should intrench. This was done by us in a perfunctory way at Pieter's Hill. With the Japanese it was systematic. During the last week of the advance on Paardeberg we progressed by "flying" trench work. It seems to me that our present policy of taking the intrenching tools off the men and putting them on to mules or into carts is a wrong one. It is the result, of course, of the South African War. The ground there was usually hard—the small intrenching tool could make no impression—and moreover there were generally plenty of stones with which to build sangars. Carts will lose their way, or the mules may be shot; at any rate, the tools will not be on the spot when most wanted. Because soldiers at times require intrenching tools it does not by any means follow that they need always be burdened with them. They can be carried in carts or on mules when not likely to be required, but when going into a fight a proportion of the infantry *must* have their intrenching tools on their backs. Numerous portable tools have been invented, and great ingenuity has been displayed in devising a pick and shovel combined in one implement. These have always failed to give satisfaction. A pick and shovel to be serviceable must be separate implements and somewhat heavy; but extreme lightness would not seem necessary if the soldier is only obliged to carry them when going into action.

The principles of field fortifications described above, both in attack and defence, were all exemplified at Shu-Shan-Pu (south of Liao-Yang). Through the courtesy of the Editor of the *Times*, I am able to show on the screen a picture of the defences. It will be remembered that towards the end of August, 1904, the Russians held a line 25 miles long in a semi-circle to the south and east of Liao-Yang. The Japanese were advancing in widely separated columns. Here apparently was a good opportunity for strategic counter-attack by the Russians. By intrenching themselves strongly at Shu-Shan-Pu, against Oku's advance from the south, they would perhaps have



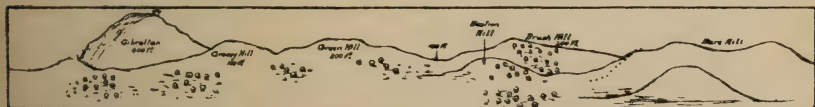
an opportunity of crushing Kuroki in the east. It was perhaps with this idea in view that they spent weeks in fortifying the position at Shu-Shan-Pu. The intrenched position at Shu-Shan-Pu was only  $4\frac{1}{2}$  miles long. This  $4\frac{1}{2}$  miles, however, had had, in the words of the *Times* correspondent, "every device known to modern engineers in the matter of earthworks used upon it. Here there were no shallow trenches and death-trap citadels, as at Nan-Shan. Wherever the contour of the position required it, a double tier of trenches had been cut into the hillside, one low down to give scope to the flat trajectory of the modern rifle, the other higher up, but well below the skyline. The trenches, which were 4 feet 6 inches deep, and narrow, had had their front carefully turfed, so that it was, at artillery range, almost impossible to distinguish the parapets. Each section of the defences had its covered way leading to commodious

## BATTLE OF SHU-SHAN-PU.



## REFERENCE

R. RUSSIANS    R. RUSSIAN ARTILLERY    ◆ RUSSIAN SPLINTER PROOF    CHINESE VILLAGE    RUSSIAN TRENCHES    J. JAPANESE HEAVY GUNS    JJ JAPANESE ARTILLERY



splinter-proofs cut into the reverse of the position. From the foot of the position, for 1,200 yards along the whole front, the millet had been cut, while there was no portion of the actual approach to the position that had not been prepared with obstacles." The Russian guns were skilfully masked; they trusted to indirect fire, and consequently much of the Japanese shell was wasted, since the Japanese gunners never discovered the masked positions. A high hill on the right of the position was used as an observatory, and was connected with the Russian batteries by telephone. That nothing might be wanting, a light railway ran from the rear of the position to the city of Liao-Yang. This position was assaulted three times: first on the evening of 30th August, 1904; secondly, in the early hours of the



morning of 31st ; thirdly, on the night of 31st. All these assaults failed as a whole; but on the night of 30th-31st a Japanese company, working down from some high ground on the left of the position and through a gap in the wire entanglements, were enabled to turn the Russians out of the lowest trench on that flank. These brave men were, however, shelled out of the trench next morning by their own artillery. Subsequently, under the covering fire of Japanese infantry, who had intrenched themselves on the high ground immediately above, the attack against the left flank was resumed, and eventually the lower trench was again occupied, while the Russians retired along the communicating trench to the supporting trench above. The Japanese never got any further, and a fourth assault was ordered for the 1st September, but for some reason or other the Russians retired on their second position close to Liao-Yang city.

It is noteworthy that in clearing the obstacles on the Russian left flank prior to the final assault on the lower trench, the Pioneers lost 75 per cent. of their number in eight minutes; "but the last devoted few, in spite of point-blank fire, in spite of contact mines, and in spite of pits, had made an opening."

It is also noteworthy that a counter-attack was made by the Russian left on the night of the 31st August against the right of the attack, but it was repulsed.

It is permissible to suggest, in connection with the first part of my lecture, that had the Russians in the lower trench on the left of their position not had easy communication to the rear, they would perhaps have maintained their position. This is, however, merely a surmise, and no doubt it is better to make the communications if plenty of time is available.

Now, gentlemen, I have not time to go into the important matter of defence of posts, so that is all I have got to say about field defences.

I cannot help thinking that there is room for closer touch, to our mutual benefit, between those who are supposed, rightly or wrongly, to be experts in this art, and the officers and men who have to use the works. This does not only apply to defence works, but to simple forms of bridging, camping arrangements, water supply, etc.

The annual Line Class at Chatham has had to be abolished, owing to the amount of other duties infantry officers have to attend to. In the last year or two we have been able to help battalions quartered at Chatham, and assist at camps of exercise in various parts of the country by sending out instructors from the School of Military Engineering. I think this assistance has been much appreciated. I do not see how the majority of infantry officers who get no instruction in this line after leaving Sandhurst can, without assistance, be expected to keep up to date in these matters, though I am aware that many of them manage to do so.

Surgeon-Major W. T. BLACK (late A.M.D.):—I am one of those who were present at the siege of Sebastopol, and who roamed round the works a few days after it was taken. It was evident to everyone that the Russian fortifications were repaired as soon as they were damaged, and were kept in a good condition, which accounted a great deal for the protracted nature of the siege. All the fortifications were evidently made good the night afterwards, or as soon as possible after the cessation of the bombardment. What rather puzzled and astonished our artillery at that time was the small effect which the bombardment with solid shot

had upon the works, and even the bombardment of the sea forts at the entrance of the harbour by the ships had little effect in the destruction of the works; but when we got in the works and saw them, the surprise was lessened at once. It was all due to the nature of the rock with which the works were built; it was a soft marly rock, and the shot embedded itself in it, just as a shot would embed itself in putty or paste. The stone was not damaged and did not crumble; in fact, it was hardened by the impact of the solid shot. This was surprising to our engineers and artillerymen at the time, but they afterwards got over it by resorting to high-angle fire with the shells which were made at the time. The final collapse of the fort was occasioned by the injury to the works due to our improved fire. I dare say all these points have been recorded in the works published by those who superintended and conducted the operations.

Lieut.-Colonel J. E. CAPPER, C.B., R.E. :—I have always thought that with reference to the siting of trenches, too little regard is paid to the conditions under which the Army has to fight. The question of taking up a position on the top of a hill or the bottom of a hill seems to me to be largely dependent on what you are there for. If you are in a position where you are content to wait for the final assault, the taking up of the position near the foot of the hill seems to me to be correct, because there you wish to see the ground that may not be perhaps close under your trenches but is within decisive rifle fire of you; whereas if you are only fighting a delaying action, without any real intention of staying, it seems to me the proper position to take up is the top of a hill, where you get a great view, and where you can bring long-range fire to bear on the enemy and make him deploy particularly early. In the first case, one must consider the question from the point of view as to how far the actual command that you obtain is worth getting at the sacrifice perhaps of a view of the near ground, but bringing into view ground at a greater distance. I do not think it is a question which is dealt with in our text-books, and I would like to ask the lecturer's views on that particular point.

Lieut.-Colonel HEATH :—I gather that Colonel Capper said that he did not always want to entrench down at the foot of the hill, that one only wanted to entrench where the best fire effect could be obtained, when you are going to fight a decisive battle.

Lieut.-Colonel CAPPER :—That is practically what I said.

Lieut.-Colonel HEATH :—But you also said that when you are going to fight a rear-guard action you must entrench high up. That is certainly the case. If you have to get away and you are being fired at, you cannot very well go up the side of the hill; you lose too many men. In that case I should put the men at the top of the hill. In my lecture what I meant was that where you have to fight a decisive action you should put your trenches where the best possible fire effect can be obtained. I think Colonel Capper also said that you need not see the ground immediately in front of your trench.

Lieut.-Colonel CAPPER :—In a decisive action. It depends a great deal on circumstances. It is a question of how far you might sacrifice the view of the immediate foreground, to ranges, say, of from 200 yards right

up to your trench, in order to get command of the ground and see a little further.

Lieut.-Colonel HEATH :—My own view is that when you are fighting a decisive action you must defend the immediate foreground right in front of your trench. You may get a good deal of fire further off, but I should like to be able to hit the man attacking me right up to the edge of the trench in any case.

Colonel F. W. ROMILLY, C.B., D.S.O. (Commanding Scots Guards) :—I should like to make one or two remarks with regard to the question of carrying entrenching tools. I quite agree that it would be a most admirable thing if entrenching tools were carried by the infantry, if you knew which were the actual infantry that would take the position; but it often happens that the first infantry who attack are not able to hold the position, and it may be that the supports who follow them would require the entrenching tools. I do not know how you would get to know which brigade or battalion you should give the tools to. The light tools are, I think, absolutely useless; you must have the big tools. Another point on which I absolutely agree with the lecturer is with regard to the preparatory bombardment. I think a direct fire bombardment is absolutely useless against a well-entrenched field force; but if you can possibly get a battery, or even machine guns, on to the flank of a line of trenches, good work can be done by means of such indirect or flank fire. I have seen some terrible execution done in that way. I saw a trench once in which there were lying a thousand dead men during the Suakim campaign in 1884. It is true they were Dervishes, but they were armed with rifles. They were entrenched in Paardeberg trenches, as we now call them, and the whole lot of them were dead, simply due to the fact that two machine guns had got on to the flank of the line and killed every single man in the trenches. We thought the trenches were occupied, and the men were rather shy of attacking them, because they thought they were strongly held.

The CHAIRMAN :—Did I understand you to say that you approved of the men carrying portable tools?

Colonel ROMILLY :—No, not the light tools. I approve of them carrying the heavy tools; but the difficulty that I see is, how you are to know to whom you should serve them out.

Lieut.-Colonel HEATH :—I did not intend to say that you were to deal out the tools to special parties. I am afraid I did not make myself plain. I meant that all men going into action should be provided with a proportion of tools. My point was that the men need not always carry these things on the line of march. If shields are ever introduced—I do not think perhaps there is much use for them—they will only be used by special men who carry them to the front for special purposes. With regard to the question of preparatory bombardment, of course, if you can get guns—machine guns or anything else—enfilading untraversed trenches, you can shoot the men in the trenches, if they sit in them, before your infantry get up there. What I meant by preparatory bombardment was, several hours' bombardment of the position and then launching your infantry to the attack. It seems to me that



the use of the artillery is to cover the infantry right up to the position as far as you can, and beat down the fire of the enemy. It is no good firing at an entrenched position for a day in the hope that you will demoralise the men holding it.

Lieut.-General E. P. LEACH, V.C., C.V.O., C.B.:—I think perhaps it is rather a poor compliment to the lecturer that, with so many of us here present belonging to his own corps, there are so few of us who are apparently willing to make remarks upon the lecture he has delivered. I think I express all your feelings in thanking Colonel Heath for the lecture he has given to us. Colonel Heath has dealt largely with the details of Field Fortification as now understood with the experience gained in the late war, and with the class of field fortifications which our troops are likely in future to have to throw up. I would like to refer, not to the main part of the lecture dealing with the details, but rather to his last remarks in connection with the training of infantry battalions and the instruction that they can receive from the Royal Engineers. Large changes have been made in our corps, changes which throw upon us in the future the responsibility of largely working with other branches. The training of the infantry can very well be carried out simultaneously with the training of Royal Engineer field companies, and infantry battalions will gain very largely if their field training can be made to synchronise with the training of any field company that happens to be in the neighbourhood. I have had a small part during recent years in training infantry battalions in the North of Ireland, and finding that in the schedule laid down for company training a portion was devoted to field engineering and entrenching work, I asked commanding officers to delay that portion of the training of their battalions until I could obtain from the Curragh, which was outside my district, a small detachment of Royal Engineers from a field company R.E. to assist that training upon a general scheme. We possessed the advantage of a most excellent camp, some thousand acres in extent, with ground undulating, sandy, easy to dig, and presenting every variety of feature. I succeeded in persuading my commanding officers that if the three battalions which were encampèd upon this particular site would combine to carry out their field engineering training together under the command of one of the commanding officers, each devoting a week to their training, that they could, by combining, take up an extended position, that each battalion could take a section of the position, place the whole in a state of defence, and all receive the advantage of the instruction that could be given by the small detachment of Royal Engineers. It was carried out most excellently. An excellent commanding officer took charge. Each battalion in succession took a week at the works. A position was prepared, and when it had been prepared and placed in a state of defence the three battalions had very great experience given them in attacking and defending it. This, I think, shows what may be done if our field companies are in the future utilised in the same direction. I believe the same lines are being followed more or less at Aldershot, and I am sure that during the present year a great deal of good work has been done in connection with the training of the 3rd Cavalry Brigades in Ireland, where a field company from the Curragh, a battalion from Dublin, and the cavalry brigade, assisted by men from H.M.S. "Donegal," all took part in simultaneous work within ten miles of Dublin. I think it is unnecessary for me to say more on this point, but I feel perfectly certain that in the future the work of field companies can be largely utilised in connection with the training of other branches of the Service.

The CHAIRMAN :—I think Colonel Smith-Rewse can supplement what General Leach has said by telling us of the assistance he was able to give to the cavalry at Canterbury.

Colonel H. W. SMITH-REWSE, C.V.O., R.E. :—I did not come prepared to take part in any discussion, and therefore would only remark that I perfectly agree with what Colonel Heath mentioned with reference to working with the infantry, and I also cordially agree with what General Leach has just said. At Chatham it is our custom to try and work with the infantry as much as ever we can. This year we were also able to afford some assistance to the general commanding the cavalry brigade at Canterbury. He wanted to carry out some operations connected with the embarkation of his regiments, and through Colonel Heath and his staff we were able to very materially add to the success of the instruction that the general carried out. What I wish to emphasise is that at Chatham it is our great pleasure to mix with the other arms of the Service, and I feel sure that it is to our mutual benefit that we should do so. Colonel Heath is fully aware of the advantages to be gained, and has done everything he can in support.

Major B. ST. J. BARTER (Lincolnshire Regiment), *p.s.c.* :—I should like to say a few words in connection with the question of counter-attacks which Colonel Heath has raised. The diagram that he showed us of the force for a counter-attack, centrally placed behind the other troops, is one that is advocated in some text-books; but it is very often possible to have the general reserve placed in some entirely different position, where the counter-attack could be developed much more easily than from a central retired position. For instance, it might perhaps be placed on a flank protected by some natural feature, or it might be placed wide to a flank, in expectation that the enemy's turning attack—which is sure to take place nowadays on one wing or the other—would be delivered on the flank where it is stationed, and that it could, in its turn, take the enemy's flank attack in flank. Or the position might be crescent-shaped, with the main reserve on a flank, so that when the enemy has developed his attack into the centre of the curve, it could come out with much greater ease than from a retired central position. As regards the question of preliminary bombardment, it is at present laid down in "Combined Training" that a demonstration should be made in combination with the bombardment—a principle which appears to be exceedingly wise, because if a demonstration is properly made, the defending troops are tied to their trenches in order that they may return the fire of the demonstrating troops; for the latter may, if their demonstration be completely ignored, make a real attack. In order to keep down the fire of the attackers, the defenders are obliged to expose themselves, and therefore I think the preliminary bombardment should always be combined with this demonstration, which may be turned into a real attack. That in olden times was not considered at all necessary. In these days I think it is. Colonel Heath mentioned that the old digging and surveying class at Chatham had been done away with. I am sorry to hear it; I did not know it had been discontinued. I can testify to the great use that it was to infantry officers in times gone by. They learned there what they could learn nowhere else, and I for one got an education there in field engineering and in topography which has been of extreme use to me throughout my service. I think one or two or more officers in a regiment going to that class come back to their regiments and are able to instruct others, and so a little leaven leavens the whole

lump, and the Army becomes permeated with the teaching of Chatham. I think it is a great pity these classes have been done away with, and if something could be done to give the instruction which was so useful in the past it would be of great advantage to the Service.

Lieut.-Colonel G. M. HEATH:—With regard to a counter-attack, I meant to say that a counter-attack close to the position is not likely to be decisive nowadays, because the attacking general who knows his business will take good care to guard the flanks of his attack; and the containing power of the rifle is so great that a comparatively few well-posted infantry, with perhaps guns to back them up, will be able to keep off that sort of counter-attack for a considerable time. Hence counter-attacks on the defended ground not being contemplated, you can arrange your position purely for passive defence. You can strew obstacles all along it, leaving practically no gaps, because your counter-attacking troops will make a much wider movement than used to be the case.

Colonel S. D. CLEEVE, R.E.:—We have been discussing the question of infantry fire trenches, and whether they should be at the bottom or at the top of a hill. I should like to ask the lecturer to give us his views as to the best position for artillery in relation to the question of the hill-top, and what kind of cover artillery batteries should take up in attack and defence.

Lieut.-Colonel HEATH:—I am rather diffident in expressing an opinion on that subject, but I know that in the early part of the recent war the Russians put their guns high up on crests. In the siege of Port Arthur they put them very high up, and the Japanese did much the same. But as they gained experience both sides adopted indirect fire—the Russians especially. As I said in my lecture, at Shu-Shan-Pu, the Russian guns were firing indirect, and the Japanese never found them at all the time; they did not know what to fire at. Therefore, I should never use the top of a hill to place my guns on, unless it was absolutely necessary in order to see the country; I should put them on the lower slopes, and, if possible, behind the crest.

The CHAIRMAN (Major-General Sir Reginald C. Hart, V.C., K.C.B., K.C.V.O.):—I am quite sure that General Leach and Colonel Smith-Rewse expressed the sentiments of the Corps of Royal Engineers when they said that it was their earnest desire to come into closer touch with the other arms of the Service. I think Major Barter has given us very sound views regarding the counter-attack, and the preparatory bombardment, and he also referred to the subject of the abolition of instruction. Having been an instructor myself for many years, I deplore the change of system by which examinations are now very greatly increased and instruction very greatly decreased. If we had more instruction we might have less examination. If you will have patience with me, I would like to make a few remarks on the tactical aspect of the points referred to by Colonel Heath. I think there is no one here who will not admit that the objective of all military operations is to secure possession of certain positions that are of decisive importance; and one of the objects of field engineering is to assist one force to remain in a position and to assist another force to turn it out; and the attacking engineer has almost invariably beaten the defending engineer. We



cannot always turn a strong position. The Japanese had no choice but to attack the fortified positions that barred their way, because there were neither roads nor tracks suitable for a modern Army that would have made it possible to get round a flank. If the brave Japanese had oftener resorted to deliberate systematic approach, making full use of field engineering, instead of going full steam ahead, it may be that they would have spared themselves some severe checks, and the loss of many valuable lives. There is a use for field fortification that we must not overlook, namely, for the sole purpose of delaying the pursuit of a victorious Army, and that is an occasion when an active defence would not further the end in view. Some field works at Leipsic, in 1813, might, to a great extent, have covered the passage of the Elster, and saved the terrible disaster that befel the French Army. There are other occasions when the purely passive defence of field works is the correct procedure. Colonel Heath, in the first notes that he sent me, used these words:—"The object of field fortification is in all cases to minimise men." I know that he is sound in his views, but that statement must be accepted in only a very restricted sense, and it is a very dangerous thing to preach without perhaps a fuller explanation than the lecturer has given. I was very glad to find that Colonel Heath afterwards explained that more fully. Some years ago a statesman, at the Chamber of Commerce, pleased his audience very much by referring to the great mountain barriers on our North-west frontier of India, as if they were a substitute for men, which they most certainly are not, and he was as much in error as those wiseacres who, a few years ago were certain that we could defend our shores with the new torpedo-boats alone, and that neither battle-ships nor sailors were any longer required. With your permission I will read a few lines that I wrote upwards of six years ago:—"It is one of the great errors made in the use of field works to imagine that fortifications can be made a substitute for men. In only a restricted sense is the statement true; if a position is fortified so that the defenders can inflict heavier losses than they suffer, it requires, of course, fewer men to defend than to attack. The error pointed out has led many to overlook the fact that decisive victory cannot be expected from mere defensive resistance, though the object in view may be best furthered, for the time being, by defensive action, as at Torres Vedras in 1812. Although it is dangerous to regard field fortifications as a substitute for men, they are a means by which the enemy may be delayed, and thereby time saved, pending the arrival of reinforcements or the decisive action of that part of the Army which is making an offensive movement elsewhere. If time and opportunity offer, a rear guard may gain time by means of the protection afforded by field works, and siege works enable an investing Army to hold its positions with far fewer men than would otherwise be possible." Colonel Heath also referred to the question of clearing the front, and he cautioned us not to be in too great a hurry to cut down trees. I should like to remind you of a very good example corroborating what Colonel Heath has stated. It is one that I have often studied, and I have been round the ground with officers who fought there; I refer to the siege of the Residency at Lucknow. I was quite surprised to find how near the mutineers came, and how close they brought their guns; there were so many trees and buildings outside our defences that it was impossible for the mutineers to get a long range for their guns, and when they brought them close to the Residency they came under the effective fire of our marksmen. It is my opinion that if it had not been for the close

nature of the surroundings of the Residency at Lucknow, the enemy's guns, at long ranges, would have pulverised the defences of the Residency. I know that Colonel Heath agrees with me that the troops must not be subservient to the field works, but the works subordinated to the requirements of the troops. The only way to ensure that the tactical relations between the troops and the ground are correct is to choose the ground most suitable for the troops, and then see how field fortifications can assist them to hold it. But the positions easiest to defend are often selected first, and then the unfortunate troops have to fit in as best they can, and frequently they do not and cannot fit in. No doubt in many cases the best positions for the troops coincide with the positions easiest to strengthen with works. I have always strongly deprecated any attempt to make the troops carry portable tools, because it would seriously impair their mobility. If a soldier has to carry a cape it will be of constant use to him, but if he carries a portable tool he may never have occasion to use it. We all remember "Little Alice in Wonderland," and the White Knight whose horse was laden with every conceivable thing, not omitting a bee-hive, because it would be so useful if he met a swarm of bees. It is true that sufficient tools may not be available on the eve of a great battle, but it is a less evil than to overload the men throughout the operations. Colonel Romilly expressed himself so fully and soundly on that point that I do not think I need say anything more. He drew our attention to the great difficulty of knowing what troops will be required to dig. The first line of troops which you send forward to develop the attack may not be required to dig, or only some of them, and, therefore, there is the difficulty of knowing to which troops you should give the tools. If the troops carry tools into action, or if a certain proportion of them do so, they should be full-sized tools, and not the portable ones which try to do two or three things and are never a success—I mean the combined pick and shovel. Regarding counter-attack, I agree with Colonel Heath in not believing much in the stereotyped text book counter-attack, because it overlooks the moral side of the question, and that troops who seek shelter in defensive works possess no mobility, and are already half beaten. If the defenders, as Major Barter said, really contemplate a serious counter-attack, they must deliberately prepare for it beforehand, as Frederick the Great did at Rossbach and Napoleon at Austerlitz, because it cannot be improvised. I am not well up in the tactics of the Battle of Hastings, but I have always understood that the disaster was due in great measure to an unprepared counter-attack. A truly dreadful expression was coined in 1870-71, namely, the "offensive-defensive." The theorist's idea of waiting calmly on the defensive until the assailants are complaisant enough to be repulsed, or to make some frightful mistake, and then to suddenly change from the defensive to the offensive would be a most dangerous game to play, because the vigorous attack of the enemy might upset all those fine plans, as Marshal Tallard's were upset by the vigorous attack of Marlborough at the Battle of Blenheim, and I doubt if anyone present could recall any examples of such a game having brought off a decisive success. In no fairness could Waterloo be considered an example. No, if you are strong enough to attack, you should make a plan of attack, have a settled purpose, and carry it through with resolution, because acting on the defensive is an admission of weakness, and should only be resorted to when the circumstances are so unfavourable as to compel you so to act, and then it is time enough to elaborate a defensive plan that contemplates a counter-attack if a favourable opportunity offers; in



other words, an active defence with local counter-attacks. There can be no doubt that most mediocre generals have a great partiality for the defensive and for being sheltered behind their field fortifications. Frederick and Napoleon both remark upon this. Colonel Heath says:—"Preparation of a second position to cover a possible retreat should not be neglected." I know Colonel Heath to be far too good and practical a soldier to overlook the moral aspect of the case, and I am sure he will agree with me that if there are two positions available—if you are fighting for victory—you should choose the stronger and devote all your energy to strengthening it, and not deliberately prepare a second position in rear, or you will take all the heart out of your men in the forward position, and instead of feeling confident and sure of maintaining their ground, they will be thinking of this position in rear, and the doubt the general must have of being able to hold the forward position. Have we not heard of a general burning his boats? There was a true general who knew how to inspire confidence. Colonel Heath has given us an example of how, if the Russian general had, metaphorically speaking, burned his boats, and had put his men in a position from which they could not have retired into a second position, they would probably have held on and been victorious. I am not talking of rearguard actions; I am talking of when a general is fighting for a victory, and in that case you would not be doing wrong to burn your boats. I do not mean to say, never prepare a position in rear, but treat it lightly compared with the forward position, because if you cannot hold the forward position, you are not likely to hold the retired position with the same troops that have been unable to hold their ground. Nor am I now referring to a series of fortified positions like those that barred the way to the Japanese. Regarding preparations in case of defeat, we must not overlook that a general has no justification for fighting a battle, provided he can avoid it, if he thinks there is a fair chance that he may lose it. Napoleon said that a general should not fight a battle unless he is persuaded that he has rather more than 70 per cent. of the chances in his favour. If he has not these chances, he should manœuvre and bide his time. Sometimes the opposing general is so clever that he makes the other general fight whether he likes it or not. An important consideration is the time to attack field-works. Some prefer night attacks, but it seems to me that we should get as close as we can at night, entrench, and attack in daylight, because everyone can see what he is about, and the covering parties and the guns may keep down the fire of the defenders; this they cannot do at night. Of course, it is often desirable to make attacks on a small scale and rush positions at night, especially if the enemy can be surprised. Attacks in clear moonlight offer many advantages. As Colonel Heath told us, we cannot see more than 200 yards in the brightest moonlight, and I have satisfied myself about it, over and over again. You can see in the immediate foreground well enough to read a letter, but you cannot see the enemy a few yards off. Frederick the Great said that it was better to have too few than too many field-works, because it is not the works that stop the enemy but the troops that defend them. Lycurgus refused to fortify Sparta, because he said:—"That city is well fortified that has a wall of men instead of brick." And Sparta held its own during eight centuries. Colonel Heath mentioned five points on which he invited discussion. I have already spoken of the first and fourth, and on these he has expressed his opinion. But I do not think he has expressed any decided opinions on the second and fifth. I will venture, very briefly, to give my own



opinion on the second, third, and fifth points. An intrenched firing line may be for days, weeks, and even months, in the presence of the enemy, and it appears to me that we have to consider the necessity for rest, and protection from the effects of rain and cold; therefore, not more men should be in the firing line than are necessary, but in case of attack, there should be means for rapidly reinforcing; therefore, they should be in close touch with the supports. If the entrenched firing line is at or near the bottom of a hill, as Colonel Heath has shown us, it might be impossible to reinforce it during an attack, and in that case, perhaps, the best plan would be for the reinforcements to fire over the front line from positions at or near the top of the hill. Because some preparatory bombardments have not been effective is no reason for dispensing with such a preparation, and we know that Napoleon resorted to preparatory bombardment. Surely no one would suggest dispensing with the co-operation of the artillery. I think, however, Colonel Heath referred more to bombardments which go on for a long time, and when there is no attack for some appreciable time after the bombardment. Colonel Barter truly expressed the opinion that it is no use to have a bombardment unless you threaten to do something. Regarding steel shields in the attack, it would not violate a principle of war, but due regard must be paid to mobility. We must not impair the mobility of the troops, but Colonel Heath suggests that they would only be used in a very restricted way. Bullets hitting steel shields would make a very startling noise, and perhaps induce some of the shield bearers to lie down and cover themselves with their shields. I thank you very much for listening to these remarks with such patience. It now only remains for me to thank those gentlemen who have taken part in the discussion, and to express to Colonel Heath our very great obligation to him for his interesting and instructive lecture.

# PRIMARY CONDITIONS FOR THE SUCCESS OF CAVALRY IN THE NEXT EUROPEAN WAR.

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*Lecture given before the Berlin Military Society by Lieut.-General  
von PELET-NARBONNE.*

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Translated by permission.

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*Continued from February JOURNAL, p. 224, and concluded.*

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THE Russo-Turkish War of 1877-78 affords food for some reflections of special interest. It was possible to feel quite an excitement at the prospective performances of the Russian cavalry in this campaign, since only a short time before—in September, 1876—great strategical cavalry manœuvres had taken place in Poland; these had been initiated before any other Army had attempted them, and operations on such a scale had never been carried out before or since repeated. They had aroused universal attention, and (according to Russian sources) had been a brilliant success.

By the Imperial orders, the cavalry was given the following problems to solve: "To interrupt the mobilisation of isolated portions of a hostile army; to effect the seizure of lines of railway and points of importance in order either to destroy them or to secure their possession; to cover the mobilisation and railway centres against operations by hostile cavalry; to reconnoitre wide stretches of country as well as special localities and hostile forces; and above all to practise the duties of covering the army and obtaining information."

It was thought that the Russian cavalry would have extracted special value from these manœuvres, and would have made the results of their experience apparent in the next campaign; however, it did not fulfil the expectations which had been formed of it.

Russian writers are their own keenest critics. General Kuropatkin, who was then Chief of the Staff to General Skobelev, gave the following opinion on the performances of the Russian cavalry in September, 1877, when it should have covered the investment of Plevna, and when energetic action was specially desirable<sup>1</sup>:—"In

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<sup>1</sup> Kritische Rückblicke auf den Russisch-türkischen Krieg von 1877-78, nach aufsäzen von Kuropatkin, bearbeitet von Oberst Krahmer. Berlin, 1889.

conclusion," he writes, "there is only this to be said: that 90 Russian and Roumanian squadrons and sotnias ought to have been masters of the whole of the country round Plevna, with good leadership on one side and on the other the comparatively defective composition of the Turkish cavalry. Our horsemen should, by constant readiness for hand-to-hand fighting, have forced the enemy's Regular cavalry and Circassians to flee whenever they appeared, and should have been invulnerable to the Turkish infantry, had they only avoided becoming involved in a fire action. Had they been quite confident that, in these days as had almost invariably been the case in the past, a bold and resolute attack under favourable conditions upon an infantry detachment on the march, on an escort to a convoy, or by an attack upon the flank or rear, or a surprise attack on an infantry bivouac, would have achieved certain success at a small loss, our cavalry would have developed a great power and have become a valuable source of assistance to the other arms. The least movement of the enemy in the theatre of war would have quickly become known, and the arrival of supplies or reinforcements of any kind have been entirely prevented or seriously hindered. As a matter of fact, our cavalry was not employed to advantage. The duties of reconnaissance were either inefficiently performed or not carried out at all."

In proof of this last statement, Kuropatkin relates several extraordinary instances, and amongst others gives the following:—"After the cavalry of General Loschkaref had reached the Sofia road on September 8th, communication was not established with the cavalry of the left wing either on the 8th, 9th, or 10th, although only a few kilometres separated one force of 34 squadrons from another of 18 sotnias."

As a reason for the small value of the cavalry operations in the days preceding the assault on Plevna, Kuropatkin gives:—"Disinclination of commanders to undertake operations which were well within their powers, but which might bring them in contact with the Turkish infantry, and so run the risk of suffering loss." Later on Kuropatkin speaks of the fundamental mistake which the Russians made in regard to the employment of cavalry. "Many commanders," he says, "believed that with the improvement in fire-arms the rôle of cavalry on the battle-field was played out, so long as victory or defeat yet hung in the balance. They were persuaded that cavalry attacks during an action would be of no value, as they offered no chances of success." Kuropatkin then further adds:—"As of old, so even in these days, a comparatively unimportant though fresh effort, either from our side or that of the enemy, which brings a reserve of cavalry, artillery, or infantry into action, can yet decide the issue. At this decisive moment to hold back the cavalry is absurd, no matter what losses they may suffer. Were even a whole division of cavalry to be sacrificed, this must be endured if, by their annihilation, victory is snatched from the hands of the enemy, or our army is saved from defeat. *'In peace time, cavalry must be educated to live for that sublime moment when such a sacrifice is demanded.'* (We must remember that in war the gaining of time often inclines victory to one side, and that in a successful attack cavalry losses are generally insignificant.)"

Kuropatkin demands, therefore, "during peace a training in self-sacrifice." This can only be done by means of manœuvres, and



here, so far as circumstances allow, must we teach cavalry to charge home. I have nothing to add to Kuropatkin's words; I have already myself said something of the same kind,<sup>1</sup> and would refer to what has been already mentioned in regard to our own experiences in the last war.

In spite of the poor performances and consequent small losses of the cavalry from the enemy's fire, the strength of the 14 cavalry regiments concentrated before Plevna had been reduced by 5,000 horses through the increased strain thrown on outpost duty by the exaggerated precautions against surprise. The troops numbered only 7 and 8 files. In this manner "the costly arm" shrank away without having been of any real use. A weak cavalry force would have completely disappeared from mere attrition, and cavalry should therefore be kept up to a certain strength, so that it may be able on occasion to endure loss.

Only one Russian unit—the Brigade of Cossacks of the Caucasus—distinguished itself in the Balkan campaign, and, as cavalry, engaged the Turkish infantry with success. At Loftcha on September 3rd, 1877, two complete Turkish battalions were entirely dispersed by this brigade, and the enemy were pursued until nightfall. It was here demonstrated what even Cossacks, who are not trained to the charge, can do when attacking infantry.<sup>2</sup> The brigade commander, Colonel Tutolmin, was, however, a distinguished cavalry officer, while the superior commanders, Generals Kryloff and Loschkaref, were, on the other hand, not up to their work. The last-named officer is mentioned by Kuropatkin as having, when ordered on September 21st, to move rapidly to the assistance of Kryloff's corps, only started on the following day, and taken an hour to cover two kilometres, so that when at last he came upon the corps he found it already retiring.

Colonel Baykoff<sup>3</sup> passes the same judgment as Kuropatkin upon the work of the cavalry in this campaign. He says that the idea of cavalry officers, young and old, was:—"What can cavalry do against infantry with the modern rifle? If the cavalry were given a rifle and bayonet, it would be a different matter; but without these, cavalry cannot engage infantry"—and the cavalry acted accordingly. If cavalry met with infantry, it either retired altogether or dismounted to fight on foot. To what an extent this was the case, the expenditure by the cavalry of one and a quarter million rounds of ammunition is the best proof. Things indeed went so far that patrols left their horses behind and marched several versts on foot (in one case it was five). Again, at Tirnova, Russian cavalry of the advance guard were seen

<sup>1</sup> Die Aussichten der Kavallerie im Kampf gegen die Infanterie und die Artillerie. Vortrag, gehalten in der Militärische Gesellschaft zu Berlin am 3 November 1897, von Graf v. Pelet-Narbonne, General Lieutenant z. D. Beiheft zum Militär-Wochenblatt, 1898, 3. Heft.

<sup>2</sup> Die Kaukasische Kasakenbrigade in Balkanfeldzug, 1877-78. Kriegsgeschichtliche Studie von Thilo von Trotha, Berlin, 1894.

<sup>3</sup> Anwendung und Ausführung des Fuss-gefechts der russischen Kavallerie. Auf Grund des Reglements für die Abgesessenen Teile der Kavallerie und der Kasaken vom Jahre, 1884, kritisierend bearbeitet von Baykoff, K. R. Oberst im Generalstabe. Uebersetzt von Trost, Oberlt., Berlin, 1885.

to dismount and form square in order to protect themselves against attack by 300 Turkish horsemen, after which the cavalry fought as infantry. These men had lost all the cavalry spirit, and had developed into inferior mounted infantry—and why? They had been taught everything possible except to charge home! Colonel Baykoff, however, does not fail to appreciate the necessity for arming the cavalry with a good firearm, for he says:—"The cavalry fire-arm should be in no way inferior to that of the infantry, and all future technical improvements in regard to the rifle should be employed by the cavalry." And in another place he remarks:—"It is unquestionably important that the whole of the cavalry has been trained to fight on foot, and armed with a long-range, accurate rifle with bayonet. It may be said that this has untied its hands and increased its independence and freedom"; further, "The long-range magazine rifle gives the initiative much greater value and sets the cavalry free, according to circumstances, either to attack mounted or to receive the enemy with fire from behind cover."

But—and this is Baykoff's proviso—if the dash of the cavalryman is to be maintained, he must not allow himself to get into the way of a faulty and too frequent use of dismounted action. Baykoff, who had many incidents of 1877-78 in his mind, holds that dismounting easily degenerates into an impulse of self-preservation, and for this reason some men take to it more kindly than to a cool daring on horseback—men who wear the cavalry uniform but who do not possess the dashing cavalry spirit.

I agree altogether with the utterances of this Russian writer. We may draw from them the lesson that in arming cavalry with a good fire-arm, care must be taken that the cavalry spirit does not evaporate, and we should therefore stick to the hard and fast rule that cavalry may only dismount when the *terrain* does not admit of their attaining their object mounted, and when their own infantry is not at hand.

The campaign of 1897 between Turkey and Greece offers no occasion for remark, and I turn to the South African War of 1899-1902.

The importance of this war, in relation to the development of tactics, was at first greatly over-rated, and only lately has this been recognised. Especially in regard to cavalry has this turned out to be the case. At first too little account was taken of conditions totally opposed to those found in Europe. The fighting took place on a theatre of war and, so far as the English were concerned, against an enemy, both differing completely from what would be met with in Europe. The experiences gained can therefore only be useful for Colonial wars, and especially for such a one as ours now going on in South-West Africa; but they offer no real reason for making any alteration in European tactics. But still, there are interesting conclusions to be drawn from the course of the campaign, and we find in them confirmation of what we have always held to be correct.

So far as the English cavalry is concerned, it should be borne in mind, in order properly to understand their poor performances in the early part of the war—up to Lord Roberts taking over command — that they had been till then cruelly split up, and were

never commanded or constituted as a body. When, later on, this was changed, and a cavalry division was organised and placed under command of the enterprising General French, the cavalry contributed considerably to the success of the operations—in spite, too, of the grave defects which still clung to them. Whatever was achieved, however, was, in the main, due to the personality of the leader, who must get the credit for it.

The English cavalry had been solely trained to shock action. They performed practically none of the duties of reconnaissance or covering the army; even among the officers an absolute disinclination for this work was apparent. The discipline, too, and interior economy left much to be desired. This was evident from the fact that owing to the careless seat of the men, which was not looked after by their officers, a very large number of horses were galled and rendered unworkable, and horsemastership, which did not appear to be understood, was wholly neglected.

In several cases, where the cavalry might have obtained a brilliant success, they were hindered by the complete exhaustion of the horses, due either to want of forage or to opportunities for watering being either not made use of or not being forthcoming. This latter misfortune—a peculiarity of the theatre of war—will never make itself apparent to the same extent in Europe, and an unfailing water supply is even more important than the issue of sufficient forage. In dismounted fighting the cavalry did little. On February 16th, in the action at Drieput, the dismounted men of two brigades, assisted by mounted infantry and four guns, failed to turn a Boer rear guard of some 100 men out of a good position.

The great defects of this cavalry (which appeared at that time to be the least valuable, as regards training, of the cavalries of the great Powers) could not be remedied even by a man of the energy and enterprise of French; but the campaign again teaches us that cavalry can still play an important part on active service, even when opposed to a redoubtable foe.

In regard to the so-called attack of the cavalry division at Modder River on February 15th, 1900, I cannot attach the same importance to it as is given in Vol. III. of the *Kriegsgeschichtlichen Einzelschriften*,<sup>1</sup> for the superiority of the cavalry was out of all proportion, since the attack was made against some 900 Boers only, who, with 3 guns, were distributed over a position four kilometres in length, while the attack was prepared for the British by 9 batteries and 2 heavy guns. The casualties—19 killed and wounded, besides 32 horses—were, moreover, particularly small. If, then, to an English officer who rode in the charge, “our chances at first seemed quite hopeless,” and who, expressing the general opinion of the other officers, says: “Few of us can come out of it alive,” this, to me, is merely a proof of “*to what perverted and harmful ideas the false teaching of troops may lead.*” It is, however, interesting to record that the moral

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<sup>1</sup> *Kriegsgeschichtliche Einzelschriften* heraus gegeben vom grossen Generalstabe, Kriegsgeschichtliche Abtheilung, I, Heft III. Erfahrungen aussereuropäischer Kriege neuester Zeit. 1. Aus dem sudafrikanischen Kriege, 1899-1902. 2. Operationen unter Lord Roberts bis zur Einnahme von Bloemfontein, Berlin, 1904.



effect of the charging masses of horsemen was a tremendous one upon the hitherto phlegmatic Boers, who had, however, already endured a heavy artillery fire, and that it exercised a depressing influence upon the Boers who were with the laager in rear.

Nevertheless, the resulting relief of Kimberley is a great feather in the cap for the cavalry division, which should then have been in a position to end the campaign had not French, in following a side issue by pursuing the retreating besiegers of Kimberley, broken the cavalry down through great strain without consequent gain, instead of devoting himself to the real object of preventing the escape of Cronje's force. All the same, he succeeded in heading off the Boers on February 17th at Koedoesdrift, and in holding them there with his horse artillery batteries and about 1,000 dismounted men for a whole day until the infantry came up. Since the horses, as an attempt proved, were too done up to charge, the result which led finally to the surrender of Cronje must be ascribed purely to the employment of dismounted action, which was successful here on the defensive, while in the offensive at Drieput, by the same means, nothing was achieved. Once more in the fighting at Paardeburg on the following day the dismounted cavalry again took part and prevented the advance of a hostile force.

On the resumption of the advance on Bloemfontein, after Cronje's surrender, the cavalry was again directed against the line of retreat of the Boers who were still standing their ground. When the position at Poplar Grove was stormed by the English infantry, and the Boer retreat became a rout, French, who was only 5 kilometres away from their line of retreat, could easily have overwhelmed them if his horses—which, in spite of a comparatively long rest after Cronje's surrender, were completely done up—had been able to move forward even at a trot. He was obliged, however, to content himself with following the Boers up slowly, and was not able to keep even a patrol in actual touch with them. Had it been this day possible for the cavalry to strike in the right place, the capture of the last Boer force then in the field, as well as of President Kruger, who accompanied it, would probably have been effected and the war would have been ended considerably earlier.

Owing to there being no hostile cavalry, the work of the English horsemen was much lightened. The Boers—so far as they were mounted—can only be looked on as mounted infantry. Nevertheless, it is worthy of note that a mounted force like that under Delarey, charging, and keeping up a hot fire at the same time, succeeded on March 7th, 1902, at Trebosch, in putting to flight an English force of 1,200 men, including 900 mounted men, under Lord Methuen, and in capturing much booty.

From this consideration of incidents embracing a period of over 90 years, my audience will already have partly drawn their conclusions. It is now necessary to bring all these into line and to select from among the details of modern battle that which seems desirable for our arm. I include general conditions, and not only those of our own home service.

The great importance of the personality of the commander has been repeatedly insisted upon, and I shall therefore not mention it again. The same with regard to the various experiences as to the

need for so training cavalry that they will not shrink from sacrifice. The need, too, for a really strong force of cavalry is apparent.<sup>1</sup>

In regard to organisation, we must cling to the important axiom that effective work in the first line cannot be expected of Landwehr cavalry. The same may be said of Line cavalry, when, through a too high percentage of registered horses, they acquire something of the character of Landwehr cavalry; the efficiency of this arm depends less on men than on horses. In the second rank stands the demand for armament with a long-range, quick-firing rifle to be attached to the rider. It must be sighted to at least 1,800 metres, since the fire-action of cavalry will often be carried on at long rather than at short ranges, as, for instance, in demonstrations, harrying the enemy, forcing the adversary to disclose his plans, etc. Cavalry must therefore be specially trained to the use of long-range sights, in rapidly picking up its target, in judging distance, even when riding at a gallop; but on the other hand, snap-shooting—since there is no time to turn out marksmen—is only in so far valuable that it gives the rider confidence in his weapon. A plentiful supply of cartridges, to be easily drawn from a pouch belt, is an absolute necessity. A bayonet, to be worn on the rider's hip as a short side-arm, is much wanted, in order to give the dismounted fight an offensive character.

Cavalry must be quite at home in the *fire-fight*, and its importance must be emphasised by inspections being regularly made to test their efficiency in this by some high authority, and by care being taken that it is practised by large units. The time for thorough grounding in this can only be arranged when field requirements are constantly kept in mind. Rapid dismounting and formation of firing lines, speedy remounting and forming into groups, mounted work in all kinds of country, so as to be ready to fight dismounted, are all important things to be practised. With all this, the principle must, however, be maintained, that the mounted attack with the *arme blanche* is the main thing for cavalry, and that dismounted action is only to be resorted to when the object cannot be attained on a horse. The more importance is attached to the non-avoidance of the dismounted fight, the more is importance to be laid upon the maintenance of the bold cavalry spirit and of *derring do*. For such the lance, too, will serve—the weapon which I look upon as *the weapon par excellence* for attack; the lance which gives the man wielding it in a fight a feeling of superiority over the man with the sword. At the same time, however, I do not deny that the lance is an awkward weapon when men dismount to fight on foot.

Cavalry must be trained to fight both mounted and on foot, to suit their formations to the ground. The uniform of the horseman must be made to conform to the conditions of the fight on foot; high heavy boots are in the way, head-dresses which, like those of cavalry, can be distinguished from a long distance, are unsuitable. Uniforms of conspicuous colours should disappear from the Army on account of the long range of modern fire-arms; showily-dressed regiments will draw upon themselves an enemy's fire sooner than others;

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<sup>1</sup> Compare "Mehr Kavallerie." Ein Mahnruf im Interesse von Deutschlands Landes-verteidigung von v. Pelet-Narbonne, Generallieutenant z. D. mit zwei Karten. Berlin, 1903.



it will be impossible for patrols so clothed to do their work. Reasonable allowance can be made for tradition only when the object for the employment of the arm does not suffer.<sup>1</sup>

The cavalry division of 6 regiments with 24 squadrons has a suitable strength. A reduction below 20 squadrons would so diminish its fighting power that often there would be no force sufficient to perform its most important work. That this organisation is already of advantage in peace time has been so often proved that I refrain from any more allusion to it. Cavalry corps can be evolved as required on mobilisation. I consider as *the most important extension of organisation* for cavalry that they should obtain through their composition and training the character of *absolutely self-contained fighting bodies*, able to maintain an action, unaided, against a force of the three arms, and equipped with all technical appliances to thoroughly perform any work which may be entrusted to them. In the light of this matter of organisation, such mere tactical questions as, for instance, whether the formation for attack be *flügelweise* or *treffenweise*<sup>2</sup> is therefore of small importance.

Twelve horse artillery guns in three batteries are a suitable number for a cavalry division, with, in addition, a machine gun detachment and mounted pioneers with each regiment, viz., a non-commissioned officer and 30 men, distributed among the squadrons, carrying neither lance nor carbine, but only sword and revolver; to be trained entirely as pioneers, and not to be employed on purely cavalry duties. Experience has taught us well enough that pioneers who do not actually accompany the troops are never at hand when wanted—even to follow close in rear is not enough.

All wagons which follow the cavalry with bridging, signalling, or demolition materials, should have the same mobility as the guns; 3 or 4 bicycles accompanying each squadron may, under certain circumstances, materially help to ease and save the horses; there is never likely to be any lack of men who know how to ride them.

To attach a battalion of mounted infantry to the cavalry division would increase greatly its fighting value. I would only suggest that great results might be expected from Jäger battalions mounted on cobs with snaffles only—such as we sent to South-West Africa.

The addition of ordinary infantry, even if they followed on wagons, would be a drag on the cavalry division.

Hitherto we have not succeeded in devising a satisfactory compressed, easily carried forage as an "iron ration" for cases of emergency, by means of which we might be able to sustain our horses, were it only for a few days. It is to be hoped that the experiments which were made soon after the last war have not finally miscarried.

<sup>1</sup> I remember on the day of Sedan seeing right across the wide battle field away to the woods on the Belgian frontier, a patrol of the Hussars of the Guard riding at a distance where any differently dressed rider would have been unnoticed. The uniform of our Protectorate troops is an ideal one for even European conditions.

<sup>2</sup> *Flügelweise* is when the G.O.C. the Cavalry Division has ordered one brigade to form the 1st Line, and the other two brigades behind one or both wings of that line, and all initiative as regards distance and intervals is left to the wing commanders. *Treffenweise* is when the brigades are formed into three lines, one behind the other, at regular intervals.



That the cavalry supply wagons must, if they are to fulfil their purpose, be able to move as quickly as the troops, has been already laid down by General von Bernhardi in his "Our Cavalry in Future Wars."<sup>1</sup> I would refer you to it.

The cavalry stands at an important point in its development. By means of the old methods it can no longer satisfactorily perform the work of modern war. For an organisation and training far broader and more elastic than of old, the expensive arm must pay the piper, and then—but then only—will the words of General Carl von Schmidt come true:—"I hope that in future battles one may be able to reckon with cavalry as with infantry divisions."

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<sup>1</sup> Zeite auflage, Berlin, 1903.

## A GERMAN COLONIAL CAMPAIGN.

THE OPERATIONS AGAINST THE BONDELSZWARTS AND  
HEREROS FROM THE BEGINNING OF OCTOBER, 1903,  
TO 31ST JULY, 1905.

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*Compiled by the 2nd Bureau of the French General Staff.*

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Translated, by permission of the French Minister of War, from the  
*Revue Militaire des Armées Etrangères.*

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*Continued from February JOURNAL, p. 207, and concluded.*

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THE exhaustion of the troops, after the privations and fatigues of the last few days, as well as the impossibility of discovering on the morning of the 12th the direction taken by the main body of the enemy, prevented an immediate pursuit. It was only on the 13th that the detachments von der Heyde, von Mühlenfels, and Deimling were moved in a column from Hamakari on Omutjatjewa (30 kilometres— $18\frac{3}{4}$  miles). But it was soon seen, as had already been experienced at Otjosasu, in the month of April preceding, that the march in a single column of such strong units could not be prolonged for any length of time. The turf was destroyed and the water resources exhausted, because the Hereros had camped in the region from May to the beginning of July, then after them had come the detachment von Estorff. The column had consequently to be broken up and distributed between the different water points in the Hamakari Valley.<sup>1</sup>

On the 15th August the detachment von Estorff, which also had been set in motion on the 13th in a south-easterly direction, overtook at Omatupa (on the Omuramba) some strong bodies of Hereros and captured from them a number of cattle. Although it was not, however, known that this was the main force of the enemy, it was necessary in any case to prevent them retreating towards the north on Grootfontein and Otawi, or towards the east into a part of the Colonel which was now almost pacified.

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<sup>1</sup> Von Löbell's "Jahresberichte der Militärischen Wissenschaften," XXXIth Vol. The Herero Rising, p. 483.

To effect this:—

Colonel Deimling moved with 4 companies and a battery and a half<sup>1</sup> in two columns on Owikokorero, which he reached on the 25th August, after having detached a company to occupy Otjosundu;

Major von Reitzenstein (replacing temporarily Major von Mühlenfels, sick) advanced with 3 companies, 1 battery, a detachment of machine guns, and a half company of Witbois<sup>2</sup> on Otjekongo, where he arrived on the 25th;

Finally, Major von Estorff, reinforced by a part of the detachment von der Heyde, moved with 5 companies, 2 batteries, 1 detachment of machine guns, and a half company of Bastards<sup>3</sup> on Okosondusu, searching all the country lying between the Omuramba-Umatako and the middle Eiseb (Epata).

On the extreme right, one company,<sup>4</sup> reinforced by two machine guns under the orders of Captain von Heydenbreck, was sent on the 28th August from Windhoek to Epukiro; on the 2nd September another company<sup>5</sup> was despatched from the same point towards Oas.

On the extreme left, Lieutenant Volkmann held the fords of the Omuramba, to the east of the Waterberg, with 1 Company,<sup>6</sup> 2 machine guns, and 2 guns.

Captain von Fiedler was left on the Waterberg with 2 companies and 1 battery.<sup>7</sup>

On the 29th, Samuel Maherero and his principal captains were reported to be in force with a large quantity of cattle in the Otjimbinde-Otjomaso-Okowindombo region.

Colonel Deimling was immediately recalled to the Upper Eiseb, which his two columns reached on the 3rd September, at Gobahene and Otjekongo.

At this date the three detachments, Deimling, Reitzenstein, and Estorff, were distributed round the enemy on an enveloping line marked by Gobahene, Otjekongo, Okosondusu, where Lieutenant Volkmann, who had found the region of the middle Omuramba completely free, had come to join Major von Estorff.

The Hereros did not wait the completion of this converging movement. On the 3rd September they attacked Lieutenant Volkmann with a part of their forces, and under cover of this diversion, attempted to slip away with their cattle in the direction of Epukiro, which was still free. They counted without the arrival of Captain von Heydenbreck on the 8th at Epukiro, and without the vigorous

<sup>1</sup> Companies 1, 2, 3, 4, and 6 of the 2nd Regiment, the 5th Battery, and half the 1st. The 2nd Company being detached to Otjosundu.

<sup>2</sup> Companies 9, 10, and 11, of the 1st Regiment, the 6th Battery, and Dürr detachment of machine guns.

<sup>3</sup> Companies 1, 2, 4, 5, and 7 of the 1st Regiment, the 3rd and 4th Batteries, and Saurma detachment of machine guns.

<sup>4</sup> The 5th Company of the 2nd Regiment, which, on account of the delays in disembarking, was unable to take part in the movement on the Waterberg.

<sup>5</sup> The 7th Company of the 2nd Regiment.

<sup>6</sup> The 3rd Company of the 1st Regiment.

<sup>7</sup> Companies 6 and 8 of the 1st Regiment, and the 2nd Battery.



offensive of Colonel Deimling against Kanduwe, and of Major von Estorff against Owinaua-Naua; turned on all sides, they had to pass into the desert. It was not possible to follow them there before the rainy season.

General von Trotha consequently modified his plan. He resolved to prevent the Hereros from escaping from the desert, and let them perish from exhaustion. It was a conception contrary to that which, at the outbreak of the insurrection, had caused the Glassenapp detachment to be directed towards the eastern limits of the Colony. The duty of this detachment was, as we know, to prevent the Hereros from passing the frontier with their herds. The blockade of the desert, on the contrary, forced them to this. This modification of the initial plan of campaign was due to the decision that it was much more important to subdue the Hereros than to save their cattle. From the day, moreover, when, half voluntarily half by force, they entered the desert, the cattle which remained to them were likely to be so few that the question of taking trouble to preserve them was no longer one for consideration.

Some offensive movements undertaken at the end of September by General von Trotha with the detachments von Estorff, von Mühlenfels and Volkmann up to Nonjata, and by Colonel Deimling with 3 companies and 2 batteries up to Otjimanangombe, gave no results commensurate with the fatigue endured. Beginning with the first days of October, it was considered sufficient to occupy the water points on the western confines of the desert of the Omaheke, and to ensure the efficacy of the blockade by keeping on the move small light columns charged to prevent the Hereros from creeping in small bodies past the posts.

General von Trotha was now in a position to hope that in a short time he would be able to finish with the insurrection, when news of exceptional gravity arrived suddenly at Headquarters. A telegram from Colonel Leutwein<sup>1</sup> announced that the Witboïis, the sworn foes of the Hereros, had revolted in their turn (18th October), and that their Chief, the old Hendrik, whose troops had fought at the Waterberg side by side with the Germans, had solemnly declared war.

After having disarmed all the Hottentot auxiliaries, the Commander-in-Chief, as the most pressing need, withdrew from the blockading troops, 3 companies and a battery and a half,<sup>2</sup> and directed them against the Witboïis; then handing over the direction of the operations in the north to Major von Mühlenfels, he left himself for the south.

At the beginning of November the positions of the German troops between Epukiro and the Omuramba-u-Omatako were as follows:—

The detachment von Humbracht (3 companies, 1 battery, 2 machine guns, and 1 mitrailleuse), between Otjimanangombe and Eware, by Epukiro and Okahandja la Petite;

<sup>1</sup> Some weeks after this revolt, which was as unexpected and unforeseen as that of the Hereros, Colonel Leutwein was authorised to return to Germany; he transferred the Civil Government to General von Trotha, and embarked on the 27th November for home.

<sup>2</sup> 2nd Company of the 1st Regiment, the 4th and 5th Companies of the 2nd Regiment, the 5th Battery, and half of the 1st Battery.

The detachment von Reitzenstein (3 companies, 2 batteries, 1 detachment of mitrailleuses), between Okowindombo and Okosondusu;

The detachment von Estorff (4 companies, 2 batteries, 1 detachment of mitrailleuses), between Owinaua-Naua and Epata;

The detachment von Fiedler (2 companies, 1 battery, and about sixty of the garrison of Outjo), between Okaundja on the Omuramba, Waterberg, Otawi, and Naidaus;

The detachment Volkmann (1 company, 1 half battery, 2 mitrailleuses), between Otjituo, Grootfontein, and Namutoni.

Before the incessant and determined movements of the small<sup>1</sup> detachments in their pursuit, a number of the Hereros, including Samuel Maharero, the principal insurgent chief, passed into British territory, where they were disarmed. In December the signs of the weakness of the enemy became very evident. Numerous bodies of men, women, and cattle, who had perished from thirst, fatigue, or illness, testified to the misery of the hunted bands.

These circumstances permitted the calling on the blockading troops to send reinforcements to the south, where they were being impatiently expected.

Major von Mühlenfels took advantage of the rainy season to deal a last blow at some small bodies who were still moving, in January, in the neighbourhood of Epukiro, under the orders of the Chiefs William Maharero and Traugott.

Some mobile columns, under the orders of Majors von Estorff and von der Heyde, chased them successively from the region comprised between the Eiseb and the Epukiro, then from a water point situated some 40 kilometres (25 miles) to the south of Kalkfontein, where they were established on the 2nd February.

Some of the insurgents made their submission; the others, with William Maharero and Traugott, disappeared to the east.

After having assured themselves that no body of the enemy were to be found in the country comprised between Otjimanangombe and Gobabis, Majors von Estorff and von der Heyde took up again, at the end of February, the pursuit, with the co-operation of Captain von Hornardt, of the garrison of Gobabis. They pushed as far as Dabis, Korikas, and Rietfontein, the length of the English frontier; everywhere they found the encampments abandoned.

In the first days of March there were no longer any Hereros in the desert of the Omakeke; some had passed into the Kaukau Veldt, into the home of the Ovambos, or into English territory; others had died from their privations in the desert, while many had regained the interior of the Colony. At the end of October, some disorganised bands, without resources, for the most part deprived of their chiefs, who were dead, having made their submission or passed into Bechuanaland, were seeking to return to the territories that they inhabited before the insurrection, by attempting to creep past in small groups through the net of surveillance established by the Germans. They succeeded all the more easily as they had no more cattle.

<sup>1</sup> Detachments of various strength which could not, in any case, exceed a Company and 2 guns, on account of the almost complete absence of water in the desert.

It is impossible to form any idea, even approximately, of the number who thus returned to their original districts, where they kept themselves hid in the brushwood; it was sufficient in any case for the presence round the most populous centres of the Colony of people reduced by the necessity of living to assassination and robbery, to constitute a great danger to the Colonists engaged in work, the convoys, isolated posts, heliographic stations, etc.

The new duty was thus imposed then on the troops of dispersing the groups of plunderers and of re-establishing order—the primordial condition of the revival of economic activity.

At the commencement of March the blockade of the desert was raised, and the troops which had taken part in it were distributed in the different localities to the east of the line Outjo-Windhoek.

At the end of April the forces left in Damaraland, under the orders of Major von Mühlenfels, in order to assure the pacification of the country and the security of the communications, comprised<sup>1</sup>:—

- a. A Headquarter Staff;
- b. 10 companies of the 1st Regiment, 2 batteries and a half, 2 machine guns, and 2 mitrailleuses;
- c. 1 company and 2 depôt batteries;
- d. Some technical troops: 2 railway companies, the one for working and the other for construction and repairs<sup>2</sup>; a detachment of field telegraphists; a surveying group, and an electric light detachment for lighting the harbour of Swakopmund;
- e. Some *Etappen* and Train troops (3 *Etappen* companies,<sup>3</sup> a provision column, an auxiliary provision column, a sanitary half-convoy);

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<sup>1</sup> The greater part of the Expeditionary Corps was employed in the South of the Colony. The different units distributed, at the end of April, over the different theatres of operations, were as follows:—

1. The Headquarters Staff of the Commander-in-Chief, which included a signalling detachment, and other services;
2. Two Regiments of mounted infantry (the 1st Regiment, 11 Companies strong; the 2nd Regiment, 12 Companies), 2 machine gun detachments;
3. Two groups of artillery (9 Batteries, of which 2 were mountain), 8 machine guns.
4. Some Depôt formations (4 Companies, 2 Batteries);
5. Some Technical troops (2 detachments of Field Telegraphists; 2 Wireless Telegraphy detachments; 2 Electric Light detachments; 1 Railway battalion of 3 Companies, one of which for working, and 2 for construction; 1 Surveying detachment);
6. Two *Etape* commands, with 4 *Etappen* Companies; 1 Commissariat detachment; artillery, remount, clothing, and camp depôts; Medical Service;
7. Three detachments of 5 provision columns, and 2 auxiliary convoys;
8. A sanitary half-convoy.

<sup>2</sup> On the 18th May, 1905, the line from Swakopmund to Otawi was constructed for 177 kilometres (110½ miles), up to Onguati, 14 kilometres (8½ miles) from Karibib.

<sup>3</sup> The Marine battalion had been sent home during March, 1905.





More than eighteen months have passed since the insurrection broke out. Successive reinforcements have been sent out to the number, on the 31st July, 1905, of 15,734 men and 13,000 horses; the credits voted by the Reichstag, distributed over the three Budgets for 1903, 1904, and 1905, have risen to the sum of 185,940,950 marks (£9,093,359), and in spite of the expenditure and the efforts which have been made, no one can yet see the end of the campaign. The Hereros have been beaten, but they have not submitted. The Hottentots show no signs of exhaustion,<sup>1</sup> and the Ovambos have not yet risen *en masse*, simply because their territories have up to the present been scrupulously respected; but on several occasions they have shown themselves aggressive, and circumstances will perhaps not permit of deferring indefinitely an expedition against these unsubdued people, who believe themselves unconquerable.

People are asking themselves if, under these circumstances, the strength of the force engaged and the credits voted, which greatly exceed to-day the most pessimistic predictions at the beginning of the campaign, will not prove insufficient. The uneasiness which is manifesting itself in Germany on this subject does not appear exaggerated; it is evident that new sacrifices must be made before complete pacification will permit the South-West African Colony to take up again the course of its normal development.

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<sup>1</sup>The operations against the Hottentots will form the subject of a further study.

# THE VON LÖBELL ANNUAL REPORTS ON THE CHANGES AND PROGRESS IN MILITARY MATTERS IN 1904.

*Précis from the German by* LIEUT.-COLONEL E. GUNTER, *p.s.c.,*  
*(late) East Lancashire Regiment.*

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*Continued from the February JOURNAL, p. 230, and concluded.*

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## **The Advance to Liao-yang.**

On the 21st June Marshal Oyama was appointed Commander-in-Chief of all the Japanese Armies in Manchuria, with General Baron Kodama, Deputy Chief of the Staff, as his assistant.

The advanced guard of the 1st Army started on the 23rd; its main body on the 24th. On the 30th the 2nd Division and the Guard occupied the pass west of Lianshankwan (Motienling). On the 3rd July the 12th Division occupied the Hsikouling pass, and remained there till the 12th July (25 miles S.E. of Schoyan).

On the 20th June the IIInd Army reached Hsingjuetschön, and remained till the 7th July. On the 9th it had a slight engagement with the Russian rear guard at Kaiping, where it remained till the 22nd awaiting the arrival of its 6th Division.

On the 17th July General Count Keller, Commander of the Eastern Detachment, had pushed out a reconnaissance in force to find out if any of the Japanese forces in his front had moved northwards. This led to a desultory Infantry action, not pushed to a close fighting within 800 yards. The Russians could not renew the attack for want of mountain guns, which were indispensable in that hilly country. The Japanese followed them up, but did not seriously engage them again.

On the 22nd and 23rd July the 10th Division and the IIInd Army marched on to Tanuschi and Taschikia on the Kiaochau-Liao-yang Railway. The 10th Division took the Panling pass and pushed on to within 8 miles of Shimucheng, N.E. of Haicheng.

On the 24th General Oku shelled the Russian positions at Taschikiao, which the latter evacuated after stubborn fighting, inflicting rather more loss on their assailants than they themselves suffered. Close fighting there was not part of the programme of either commander.



On the 26th July the Japanese occupied Yinkau (Newchang).

On the 31st the 5th Division attacked the Russian position west of Shimucheng, the 10th Division having been steadily pushing the Russian troops back on that place since the 28th July. The Russians retreated in order to Haitschöng (Haicheng).

On the 2nd August the Russians abandoned Haicheng, retreating to Anshanchan, and the next day the Japanese occupied it.

In the north the 1st Army attacked with the bulk of the 2nd Division and the Guards the Russian Eastern Detachment in its position behind the Lanho, and with the 12th Division and part of the 2nd Division the Russian Xth Army Corps in the Inschuling pass (Tsuantsutien). The attack was unsuccessful, but the Russian Commander decided to retire to Anping in the night, as the Eastern Detachment had notified that they were evacuating their position abreast of him. The Eastern Detachment accordingly retired to Tanhochuan. The Japanese followed them up to the west bank of the Lanho.

The losses on both sides were severe, that of the Russians especially so.

During the next three weeks both sides prepared for the struggle for Liao-yang.

The Japanese 5th and 10th Division were now united with the lately landed 2nd Artillery Brigade into a IVth Army, placed under the command of General Count Nodzu.

### **The Battle of Liao-yang.**

Since the fighting at the end of July the Russian Army had taken up the following positions:—

The 1st, II<sup>nd</sup>, IV<sup>th</sup> Siberian Army Corps were grouped round Anstanchan, with the III<sup>rd</sup> Siberian (formerly Eastern Detachment) and the Xth Army Corps beyond the Tanho east of the line Tunsinpu-Tanhochuan-Anping. The XVII<sup>th</sup> was in Reserve at Liao-yang on both banks of the Taitseho. Flanking Detachments were in the Liao valley and at Pönsihu (Penhsi-ho).

The Japanese 1st Army was to reach the Tanho on the 28th August, and Marshal Oyama decided to attack the Russians about Anshanchan on that day.

On the night of the 25th-26th August, General Kuroki's frontal attack on the III<sup>rd</sup> Siberian and Xth Army Corps (which was reinforced by portions of the XVII<sup>th</sup> Russian Army Corps in the course of the fighting) was unsuccessful, but the flank attack against the left wing of the Russian Xth Army Corps near Anping was more fortunate. The Russians were arranging for counter-attack on the 27th, when the Commander-in-Chief ordered the whole to retire to Liaoyang. Their withdrawal over the now swollen river Tanho was a matter of some difficulty. There was much rear-guard fighting. In the course of the 28th August all the Russian corps were, however, drawn up in the positions assigned to them for defence at distances behind the Tanho varying from 10 to 12 kilometres (6 to 8 miles).

Of Kuroki's Army only the Guard Division and the 2nd Division followed them up. The positions reached by the 12th Division on the 28th proved their intention to turn the Russian left north of the Taitseho.

The Report gives an excellent sketch showing the relative positions of the contending Armies on the evening of the 29th August, which

is well worth study in the original, and refers the reader to No. 154 of the "*Militär-Wochenblatt*" of 1904, for the complete text of General Kuropatkin's orders for the following day.

On the 30th part of the Japanese 2nd Division of the 1st Army held the left of the Xth Russian Corps, while the Guard Division attacked its right vigorously. The rest of General Kuroki's Corps began the passage of the Taitseho.

The 10th, 5th, and 3rd Divisions attacked the south front of the Russian positions held by their Xth, IIIrd, and 1st Siberian Army Corps. The 6th and 4th Japanese Divisions were to have turned the Russian right, but these, perceiving their intention, prolonged their right, which opposed the 6th Division, while the Russian Cavalry appear to have checked the 4th Japanese Division, for it did not come into action on the 30th at all, and all the Japanese efforts to pierce the Russian front that day were repulsed on Kuropatkin bringing up his Reserves.

On the 31st August the IIInd and IVth Japanese Armies renewed their attacks without important success. Of the 1st Army their 12th Division crossed the Lanho river at Sakan, then took position at Kwang-tun to cover the passage of the half 2nd Division, which took till the 1st September crossing. The Reserve Brigade took Pönsihu, driving the Russians northwards.

The XVIIth Russian Army Corps pushed forward in opposition a Division on the heights E. of Sykwantun. Learning the crossing of the Taitseho by the Japanese, Kuropatkin determined to give up his positions still maintained south of Liao-yang and to concentrate his forces for an overwhelming attack on Kuroki's Army. For this he assembled part of the 1st, the XXth, the XVIIth Army Corps, the 1st and IIIrd and part of the Vth Siberian Army Corps, about 100 Battalions altogether. It took the whole of the 1st September to effect this movement. The Japanese occupied the evacuated positions south of Liao-yang, and bombarded and set on fire its railway station and the Russian quarter.

Kuropatkin's orders for this concentrated counter-attack were not well carried out, and Kuroki, after much fighting, maintained his positions, but was not strong enough without assistance from the IIInd and IVth Japanese Armies to deliver any counter-stroke. These latter had up to the 3rd September been unsuccessful in their attacks on the Russian positions.

But on that day Kuropatkin decided to retire on Mukden.

That evening General Sarubrieff began the evacuation of Liao-yang, which lasted all night. By the morning of the 4th the whole Army was assembled on the northern (right) bank of the Taitseho. The Japanese 1st Army only advanced as far as Sachutun; the IIInd and IVth Armies occupied Liao-yang.

On the 5th September the Japanese 1st Army pressed forward on the left flank of the retreating Russians and occupied the Yentai coal mines. Its IVth Army crossed the Taitseho, but only got as far as Fönshan, where the railway crosses over the road to Mukden.

The Russian retreat was much hampered by their heavy train, which they had not sent off soon enough; but they were not harassed by the Japanese, and on the 7th September the last of the retreating Army reached the Hunho. Leaving a comparatively strong force there to guard the passage, which was moreover strengthened by field works, and to enable him to resume the offensive when the time



for this came, Kuropatkin withdrew his Army to reorganise it afresh after the late severe fighting.

### Port Arthur and the Situation on the Sea till October, 1904.

The first two months of the siege of Port Arthur were taken up in completing the investment of the fortress. This was delayed by the naval sorties from Vladivostok and by mines the Russians had laid down in and about the harbour of Dalny, where the siege material of the Japanese had to be landed. This necessitated cautious work in clearing the harbour, and several small Japanese vessels were lost.

On the 26th July the besieging Army, consisting of 3 Divisions and a Reserve Brigade, began to gain ground to the front, and by the 30th they had taken the Russian advanced positions, which had been pushed forward 17 kilometres (about 11 miles) from the fortress.

On the 9th August they had captured the last of these with the Takushan Hill,† which rendered the position of the Russian ships in harbour precarious. Some ships on both sides took part in the fight, but there was no naval engagement.

The Japanese began the actual attack on the fortress immediately after the capture of the Takushan Ridge.

The strongest land front of the fortress was the east front and the east end of the north front. The north-west front was weaker, having only semi-permanent works defending the salient angle. There were no armour-plated forts, but many redoubts and field works, the ground in front of which was sown with land mines, wire entanglements, and other obstacles.

On the 10th August the Russian Squadron, under Admiral Witthöft, attempted, in accordance with the Tsar's orders, a sortie to get to Vladivostok; but Admiral Togo intercepted him, and he was killed on board the "Tsarevitch" by a 12-inch shell. Three cruisers and 5 torpedo-boats, under Admiral v. Reitzenstein, broke through the Japanese line of cruisers and escaped. The 5 other battle-ships, the cruiser "Pallada," and 3 torpedo-boats were driven back to Port Arthur. The "Tsarevitch" escaped, but was seriously damaged.†† Most of the other vessels that escaped were disarmed in neutral harbours. The cruiser "Novik" was stranded in Korsakoff Bay.

The Vladivostok Squadron had varied successes. It sank 4 transports with troops and destroyed many carrying contraband of war. When the Port Arthur Squadron made its eventful attempt to reach it, the Vladivostok 3 large cruisers (the smaller, "Bogatyr," was damaged), under Admiral Jessen, left that port and reached the Straits of Korea on the 14th August. Vice-Admiral Kamimura, with 8 Japanese cruisers and some torpedo-boats, steamed to meet him. The Russians tried to escape, but the "Rurik" was sunk by its commander, the Japanese rescuing most of the crew. The two others, "Rossia" and the "Gromoboi," succeeded in making their way back to Vladivostok, but with considerable damage and the loss of a third of their crews. As a result of these attempts, the Port Arthur Squadron remained fettered to that fortress; the Vladivostok cruisers remained inactive, awaiting the second (Baltic) Russian Fleet. This long hoped for reinforcement did not leave Libau until the 13th October,

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†About 6 miles E. of the harbour.—E.G.

††It escaped to Kiauchau.



in the early part of which month the Japanese had commenced the construction of their siege parallels against Port Arthur.

### **The Russian Great Counter-stroke in Manchuria.**

By this time the 1st Russian Army Corps and the VIth Siberian Army Corps had arrived,† and Kuropatkin had nominally 260 Battalions, 160 Squadrons, and 116 Batteries of Artillery, comprising in all about 293,000 men and 900 guns, though about 30 per cent. should be deducted from the numbers he returned. Now two Armies were formed.

On the 2nd October he issued a long order for an offensive movement on a large scale for the relief of Port Arthur. General Grippenbergh had been appointed from Finland Commander of the 2nd Army, while Kuropatkin retained that of the 1st.

On the 5th October this movement began as follows:—

A right flank detachment marched out of the Liao-ho valley towards Siaobeicho (at the junction of the Hunho and Taitseho), under General Kossogowski.

The Vth Siberian Army Corps marched along the right bank of the Hunho on Tshantan, under Lieut.-General Dernbowski.

Along the railway and the Mandarin road the West Army wing, consisting of the XVIIth Army Corps,  $\frac{3}{4}$  of the Xth Army Corps, and a strong force of cavalry, advanced, under command of General Baron Bilderling.

Half of the 31st Infantry Division, under General Man, and the Cossack Cavalry of General Mischenko, marched from Fyndiapu to Santiatsy and Mianpuapu to connect the west wing with the east wing. The east wing intended to outflank the Japanese right, and, consisting of the 1st Army Corps,  $\frac{1}{2}$  the IIInd Army Corps, the IIIrd Army Corps,  $\frac{1}{4}$  the IVth Siberian Army Corps, and the Siberian Cossack Division, moved, under command of Lieut.-General Baron Stackelberg, across the Hunho above Mukden, by Bianupusu and Kaotaitsy, against the Tumynlin Pass and Pönsihu (Pen-hsi-hu). The Rennenkampf detachment (a mixed Infantry Division) and the Trans-Baikal Cossack Division moved by the Taling Pass, 45 kilometres (28 miles) E. of the Kautulin Pass along both banks of the Taitseho on Pönsihu.

A left flank detachment marched from the Taling Pass on Kiautshang, under Colonel Madribor. As Reserves, the VIth Siberian Army Corps followed the right wing, and  $\frac{3}{4}$  the IVth Siberian Corps and the 1st Army Corps followed in rear of the centre.

The Report narrates in some detail the movements of these different bodies and the fighting, for which there is not space here.

On the 8th the Russian advanced guards reached the Shiliho.

On the 9th Rennenkampf's Cossacks arrived at Pönsihu, but not being supported by infantry could not dislodge the Japanese in position there.

On the 10th the Japanese, hitherto acting defensively, took the offensive on the Shiliho and drove General Bilderling's advanced guard back across that river.

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†The Circum-Baikal Railway had been opened on the 26th September, which much facilitated the transit of reinforcements from Russia.—E.G.

On the 12th General Oku attacked the Russian XVIIth and Xth Army Corps again, and drove them back to the Shaho (10 versts =  $6\frac{1}{2}$  miles), taking 22 guns.†

Kuropatkin withdrew his centre to the Shaho on the night of the 13th October, and the next morning the Japanese 3rd Division attacked the Russian Xth Army Corps and took 24 guns.

A general counter-stroke had been planned by the Russian Commander for the 16th, it being intended to try and overwhelm the Japanese left flank.

By the evening the Russians had made some progress, General Putilov, Commander of the 2nd Brigade of the 5th Division of Siberian Rifles, having captured a hill (which the Japanese endeavoured in vain all night to retake) and taken 14 Japanese guns. The attacks and counter-attacks at Shahopu (on the river and rail) were fiercely renewed, until, torrents of rain falling, the ground was turned into a perfect swamp. On the 18th all fighting ceased. The Russians had lost 1,074 officers and 42,612 men; the Japanese 15,879 men.

On the 20th October the Japanese retired from Shahopu itself, which was reoccupied by the Russians. From that date until the beginning of January, 1905, the situation remained practically unchanged, both Armies entrenching themselves carefully in their positions within a short distance of one another.

On the 25th October General Kuropatkin was appointed Commander-in-Chief of all the land and sea forces, vice Alexieff; General Linievitch took command of the 1st Army, General Grippenbergr retained that of the 2nd, while a 3rd was formed under command of General Baron Kaulbars, a Cavalry officer.

### The Fall of Port Arthur.

Between the 25th October, 1904, and the 2nd November, the Japanese gradually drove the Russians back to their main works, and pushed their own Infantry attack forward until within assaulting distance.

Their losses were so considerable that the IIIrd Army had to be reinforced in November by the 7th Division, which it had been intended to send up to join the Main Army in Manchuria. Many attempts to storm the N.E. front failed, but on the N.W. front the efforts of the 1st Division were crowned with success by the capture of the 203 Metre Hill, as it was called, and the high ridge there.

This enabled them, when their heavy guns were brought up, to destroy the remainder of the Russian war-ships in the harbour. On the N.E. front Lieut.-General Konratenko was killed. The Commandant, General Stoessel, had always acknowledged the great services rendered throughout the siege by this brave and able officer. Between the 28th and 31st December the Japanese took the Erlungshan and Sungtsushan Forts. This sealed the fate of the north front.

On the 1st January, 1905, General Stoessel offered to surrender the fortress, and on the 2nd the capitulation was signed by him and General Nogi.

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†Two Regiments of Japanese Cavalry had also crossed the Taitseho on the 12th, and with dismounted action had driven back the Russian Infantry at Yüniunsin, E. of Pen-hsi-ho.—E.G.

Among the prisoners of war were 9 General Officers, 4 Admirals, 865 Staff, Commanding, and Field Officers, 17,191 non-commissioned officers and men of the land forces, and 6,300 petty officers and men of the fleet, of whom many were wounded or sick; 15,000 to 16,000 wounded and sick men remained in hospital in Port Arthur. The total loss of the Russians amounted to about 25,000 men, 546 guns, and 35,252 rifles, 82,670 shells, and much powder fell into the hands of the victors. These had lost from 60,000 to 70,000 men. On their taking possession of the fortress they at once began to repair the damage done to the forts. Port Arthur is evidently to become a naval station and a war harbour, while Dalny is eventually to be made a free port.

Most of the Japanese war-ships were sent back to Japan for overhauling and repairs. Vice-Admiral Rojdestvensky was appointed to the command of the second Russian Fleet, which reached Madagascar in December, 1904, and January, 1905, where it lay awaiting the arrival of its third fleet, which left Libau on the 15th February, 1905.

The best accounts of the war are in the "*Militär-Wochenblatt*" and the "*Marinerundschau*," and in "*Taktische und Strategische Lehren der Russisch-Japanischen Krieg*," von Major Löffler. (E. S. Mittler u. Sohn, Berlin.)



## NAVAL NOTES.

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HOME.—The following are the principal appointments which have been made: Rear-Admiral—F. C. Bridgeman Bridgeman, M.V.O., to be Rear-Admiral in the Mediterranean Fleet. Captains—J. Startin to be Captain Superintendent of Sheerness Dockyard; R. A. Allenby, M.V.O., to "Centurion"; H. F. Oliver, M.V.O., to "Dryad"; C. D. Grenville to "Trafalgar"; F. A. Warden to "Cressy." Commanders — C. H. Hughes-Anslow to "Diamond"; H. W. Grant to "Harrier."

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The new first-class armoured cruiser "Donegal" commissioned at Devonport on the 6th February for service in China, where she relieves the first-class protected cruiser "Andromeda," and she left Plymouth on the 15th ult. for her destination. The new river gun-boat "Nightingale" has been sent out to China in sections from Chatham, and is to be commissioned at Shanghai in April for river service on the station; her ship's company are taking passage to Shanghai in the "Donegal."

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*Statement Explanatory of Navy Estimates, 1906-7.*—The Estimates for 1906-7 amount to £31,869,500, as opposed to £33,389,500 for the current year, a reduction of £1,520,000. The method by which this reduction has been obtained is described in one of the Appendices (Estimates Committee) to the Blue Book, "A Statement of Admiralty Policy" (Cd. 2791), issued by my predecessor in November last, anticipating much of that usually made on presentation of the Estimates. The present Estimates are substantially in agreement with the forecast given in that Statement.

The following is the statement relative to new construction during the last 12 months :—

### *New Construction.*

Between 1st April, 1905, and 31st March, 1906, the following ships will have been completed and become available for service :—

- 3 battleships—"Dominion," "Hindustan," "New Zealand."
- 8 armoured cruisers—"Antrim," "Argyll," "Carnarvon," "Devonshire," "Hampshire," "Roxburgh," "Black Prince," "Duke of Edinburgh."
- 1 second-class cruiser—"Encounter."
- 8 scouts—"Adventure," "Attentive," "Forward," "Foresight," "Pathfinder," "Patrol," "Sentinel," "Skirmisher."
- 16 destroyers.
- 13 submarines.
- 1 floating coal depôt.

On 1st April, 1906, there will be under construction :—

- 6 battle-ships.
- 10 armoured cruisers.
- 12 destroyers (coastal).
- 5 " " (ocean-going).
- 1 destroyer (very fast ocean-going).
- 1 Royal yacht.
- 15 submarines and a repair-ship.

It is proposed to begin during the financial year, 1906-7:—

- 4 armoured vessels.
- 5 destroyers (ocean-going).
- 12       ,,       (coastal).
- 12 submarines.

#### *Battle-ships.*

The Committee on Designs, mentioned in last year's Statement, considered the various designs, and settled the type of battle-ship to be laid down during the financial year, 1905-6. This battle-ship, "Dreadnought," is being supplied with turbine machinery on the Parsons system, and was laid down at Portsmouth on the 2nd October, 1905, and launched on the 10th February by His Majesty the King. It is hoped that the ship will be put into commission in the beginning of 1907.

The "Lord Nelson" and "Agamemnon," of the 1904-5 programme, which are now under construction on the Tyne and Clyde respectively, have made considerable progress during the year, and it is expected that they will be completed by their contract dates.

The decision to re-arrange the armament in the "Warrior" class has somewhat delayed their completion.

#### *Armoured Cruisers.*

The six armoured cruisers of the "Devonshire" class have passed successfully through their trials, and all of them are in commission. They attained an average speed of over 23 knots, and one reached 23·6 knots. They are practically identical in speed and coal endurance with the cruisers of the "Monmouth" class, but are superior in armament and protection.

The "Duke of Edinburgh" has successfully passed through all her trials, and attained a speed of 22·84 knots in rough water and a strong wind on the measured course at Polperro. She has been completed at Pembroke, and was commissioned with a nucleus crew on 20th January, 1906.

The "Black Prince" has also passed through all her principal trials successfully, attaining a speed of 23·65 knots in fine weather on the Polperro course.

The four later ships of the "Duke of Edinburgh" class, which have an auxiliary armament of 7·5-inch instead of 6-inch guns, have all been launched during 1905-6.

The three armoured cruisers of the "Minotaur" class, which were laid down during January and February of 1905, have made good progress.

During the current financial year, contracts have been entered into for the construction of three armoured cruisers, named "Invincible," "Inflexible," "Indomitable." These vessels are to be ready for commission in May, 1908, *i.e.*, within 30 months from the date of ordering.

#### *Scouts.*

All the eight vessels of the new "Scout" class have been satisfactorily completed and put into commission. These vessels have fulfilled all the conditions of the designs, and have obtained speeds for 6½ hours' continuous steaming, varying from 25·06 knots to 25·88 knots. The eight vessels have been built from four different designs.

*Destroyers.*

All the vessels of the "River" class which were under construction at the commencement of the current financial year have been completed and put into commission, making in all 34 vessels of this class now in service.

The strength and sea-going capabilities of this class have been severely tested, and have proved very satisfactory.

The 12 coastal destroyers and the five ocean-going destroyers included in the current year's programme have all been ordered. The former will have a trial speed of 26 knots and the latter of 33 knots. Negotiations in connection with ordering one special ocean-going destroyer of 36 knots trial speed are nearly complete.

The whole of the destroyers included in this year's programme will have turbine machinery, and be fitted for carrying and burning oil fuel.

*Other Vessels.*

The design of a new yacht for His Majesty has been completed, and the actual building is in hand on the Clyde.

The steam-ship "Indrabarah," now named "Cyclops," has been purchased for conversion into a fleet repair-ship.

*Submarines.*

The 11 boats in the present year's programme have been ordered.

*General.*

Improved appliances for cooking, as well as bread bakeries, are being introduced into ships.

Improved sanitary, ventilating, warming, and washing arrangements are also being introduced.

The use of electricity for many purposes on board H.M. ships continues to increase.

*Machinery and Boilers.*

The policy of fitting complete installations of water-tube boilers in war-ships has been continued, large tube boilers of "Babcock & Wilcox" or "Yarrow" type being fitted in battle-ships and first-class cruisers, and boilers of the small tube type being fitted in scouts and destroyers.

The conditions adopted last year, under which all contractors' machinery trials in new ships were to be carried out under Service conditions, have been applied to all later ships.

The policy of providing reserve sets of auxiliary machinery, etc., has been continued during the past year by the provision of further auxiliary machinery, etc., typical for various classes of ships, and the stock is now practically complete to date. These reserve parts will enable ships to be supplied with replace auxiliary machinery with the least possible delay.

The provision of an adequate supply of fresh water for ships of H.M. Fleet has been under continued consideration. Additional evaporating and distilling plant has been supplied to each battle-ship which was below latest standard in this respect, when coming in hand for large refit.

All new ships are to be supplied with independent machines for ice-making and for cold storage.

*Standardization.*—The extended policy adopted last year of making the main and auxiliary machinery of ships of the same class interchange-



able as far as possible has been continued, and this plan is being carried out in all later ships, including destroyers.

*Electric Generating Machinery.*—In consequence of the extension of the application of electric motors for driving auxiliary machinery and for ships' purposes generally where applicable, larger installations of generating machinery are being fitted in vessels under construction, and those on the more modern completed vessels are being increased as the ships are taken in hand for large refit.

*Turbine Propelling Machinery.*—In view of the satisfactory performances of H.M.S. "Amethyst," fitted with turbine propelling machinery, and of a rapidly increasing number of such installations in ships of the Mercantile Marine, it has been decided to adopt this means of propulsion in all the war-vessels provided for during the present year.

As the result of experience, it has been decided to replace the set of reciprocating machinery fitted in the "Velox" (turbine-propelled torpedo-boat destroyer) for use at low speeds, by turbines adapted for cruising powers.

*Liquid Fuel.*—The experimental oil fuel establishment at Haslar has been completed, and trials with five of the latest types of water-tube boilers, together with instructional work, are in regular progress there.

The oil fuel installations in the "Mars" and the "Hannibal" are being brought up to date, and, as opportunity affords, oil fuel appliances are being fitted to H.M. ships "Cæsar," "Majestic," "Magnificent," and "Victorious." Installations are also in progress for all the later vessels building and completing.

The torpedo-boat destroyer "Spiteful," fitted to burn oil fuel only, is in commission as an instructional vessel for the training of engine-room complements in the manipulation of oil-burning appliances.

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#### GENERAL.

The war-ships, exclusive of torpedo-boats and submarines, launched during the year 1905 with their tonnage, I.H.P., and estimated speed were as follows:—

*Great Britain.*—First-class battle-ships—"Africa," "Hibernia," of 16,350 tons, 18,000-I.H.P., and 18·5 knots speed. First-class armoured cruisers—"Achilles," "Natal," "Cochrane," "Warrior," of 13,550 tons, 23,500-I.H.P., and 22·5 knots speed. Scouts—"Skirmisher," of 2,940 tons, 17,000-I.H.P., 25 knots speed. Torpedo-boat destroyers—"Colne," "Gala," "Garry," "Ouse," "Swale," of 550 tons, 7,000-I.H.P., and 25·5 knots speed.

*Austria-Hungary.*—Second-class battle-ship—"Erzherzog Ferdinand Max," of 10,600 tons, 14,000-I.H.P., and 19 knots speed. Torpedo-boat destroyer—"Huszar," of 400 tons, 6,000-I.H.P., and 28 knots speed.

*France.*—First-class battle-ship—"Liberté," of 14,865 tons, 18,000-I.H.P., and 18 knots speed. First-class armoured cruiser—"Jules Michelet," of 12,570 tons, 29,000-I.H.P., and 23 knots speed. Torpedo-boat destroyers—"Stylet," "Tromblon," of 336 tons, 6,800-I.H.P., and 28 knots speed.

*Germany.*—First-class battle-ships—"Pommern," "Hannover," of 13,200 tons, 16,000-I.H.P., and 18 knots speed. Third-class cruisers—"Leipzig," "Danzig," "Königsberg," of 3,250 tons, 11,580-I.H.P., and 23 knots speed. Torpedo-boat destroyers—One division of 6 boats.

*Italy.*—First-class battle-ship—"Napoli," of 12,625 tons, 19,000-I.H.P., and 22 knots speed. Torpedo-boat destroyers—"Olimpia," "Perseo," "Pegaso," of 217 tons, 2,900-I.H.P., and 26 knots speed.

*Japan*—First-class battle-ships—"Kashima," "Katori," of 16,650 tons, 16,000-I.H.P., and 18.5 knots speed. First-class armoured cruiser—"Tsukuba," of 13,970 tons, 17,000-I.H.P., and 23 knots speed. Torpedo-boat destroyers—"Uenohi," "Hatsuschimo," "Yayoi," "Ariake," "Fubuke," "Arare," of 386 tons, 5,300-I.H.P., and 29 knots speed.

*Russia*.—Third-class cruiser—"Tchininetz," of 1,400 tons, 1,400-I.H.P., and 13 knots speed. Torpedo-boat destroyers—"Emir Bucharski," "Dobrowoletz," "Usadnik," "Gaidamak," of 580 tons, 6,500-I.H.P., and 27 knots speed; "Voiskovoi," "Finn," "Ukraina," of 500 tons, 5,200-I.H.P., and 25 knots speed.

*Sweden*.—Coast-defence battle-ship—"Oscar II.," of 4,270 tons, 9,000-I.H.P., and 18 knots speed.

*United States*.—First-class battle-ships—"Vermont," "Kansas," "Minnesota," of 17,650 tons, 16,500-I.H.P., and 18 knots speed; "Idaho," "Mississippi," of 13,000 tons, 10,000-I.H.P., and 17 knots speed. First-class armoured cruisers—"Washington," of 14,500 tons, 23,000-I.H.P., and 22 knots speed; "St. Louis," of 9,700 tons, 21,000-I.H.P., and 22 knots speed.

*FRANCE*.—The following are the principal promotions and appointments which have been made: Capitaines de Vaisseau—C. E. Motet to "Carnot"; M. G. I. De Ramey de Sugny to "Léon Gambetta"; A. L. M. Huguet to "Condé"; A. Rouyer to "Chasseloup-Laubat" and Command of the Newfoundland Fishery Division; P. A. Le Bris to "Pothuau." Capitaines de Frégate—R. O. D'Hespel, A. M. Ytier, E. A. G. Serres, P. J. Darrieus to be Capitaines de Vaisseau; C. V. Ollivier to "Galilée"; A. L. Harel to "Lance" and 2nd Torpedo-boat Flotilla.

The Fishery Protection Division is to consist this year of the second-class cruiser "Chasseloup-Laubat," bearing the broad pennant of Capitaine de Vaisseau A. Rouyer, Commanding the Division, which is to commission at Lorient on the 26th inst.; the third-class cruiser "Lavoisier," which commissioned at Lorient on the 1st inst., and the third-class cruiser "D'Estrées," which is to commission at Rochefort on the 1st April. At the close of the fishery season, the "Chasseloup-Laubat" and the "Lavoisier" will return to Lorient and be placed in the Reserve, while the "D'Estrées" will join the Atlantic Division, where she will replace a sister-ship, the "Troude."

Orders have been received at Lorient from the Minister of Marine to lay down six new first-class torpedo-boats, which will be numbered 347 to 352 inclusive. Their engines are to develop 2,000-I.H.P., giving a speed of 26 knots; they will carry three torpedo-tubes for 18-inch torpedoes, one in the stem and two coupled together on the after part of the deck. The vessels will be constructed at different yards on the Loire.

*The English Submarines*.—The following interesting article appeared recently in the *Temps*:—

"The *Projet de Budget* for the year 1906, which has been distributed to the members of the Commission de la Marine, indicates the lines of the new programme of construction which is to be completed in 1919.

"This new programme shows that France will then possess and have completed a total of 131 submarines of both offensive and defensive types, the new programme providing for the building of 90, divided into 18 offensive and 72 defensive vessels. It is necessary, however, to remark that many of the submarines built at the present time will in all probability be completely out of date in 1919, consequently a considerably greater number than 90 will actually have to be provided.

"During the same period of 13 years, only 50 torpedo-boats are to be built, showing the importance rightly attributed by the Minister of Marine to endowing France with a sufficient number of the more novel fighting units.

"Having arrived at an epoch when the utility of submarines is acknowledged without exception by all the Navies of the world, it is our duty to consider what progress has been made in this new branch of construction by others, so as to satisfy ourselves that our new boats will not be inferior to those built abroad.

"The country which, with France, stands at the head of the movement is without doubt England, and it will, we think, be interesting to our readers if we give some information as to how that country views the submarine question.

"The first experiments made in France date back to the period, 1886-88, when the 'Gymnote' and 'Gustave Zédé' were constructed; during the next 10 years the subject was studied in all its bearings, and on M. Lockroy, then Minister of Marine, asking for competitive designs, two new vessels, the 'Morse' and 'Narval,' were laid down. Nevertheless, it was really only after 1897-99, the period coinciding with the Fashoda affair, that France, having proved the utility of submarines, constructed the 'Français' and 'Algérien' and four others of the 'Farfadet' type.

"During these 14 years (1886-1900) England apparently gave the question a cold shoulder, though she carefully took note of the five 'Nordenfelt' submarines that were being built at Barrow by the Vickers-Maxim Company, apparently remembering the words of Pitt regarding Fulton's torpedo: 'If this manner of fighting be ever adopted, there will be an end of all men-of-war.' England perhaps hoped that France would give up the idea.

"From 1900, nevertheless, seeing the incessant progress made by France, the British Admiralty seriously took up the submarine question—the arm of the weaker Power, as it was called, perhaps somewhat disdainfully, by Lord Goschen. At this time France possessed 10 submarines, either building or completed.

"The English having decided—we might almost say, having been forced—to add to their Navy a submarine flotilla, endeavoured to make up for lost time, and in their characteristically practical way decided not to construct these vessels in the Government dockyards, but to leave the initiative to private firms with some experience, giving an order to the Barrow works for a boat of the 'Holland' type, directing them only to make sure they were not infringing any patent rights.

"Having been kept informed of the trials made in America during the last 30 years with the 'Holland' type, the Admiralty decided that this class of boat was the most suitable for them to experiment with, and it would appear that the choice was a judicious one, because at the time, the Electric Boat Company, of New York, to which the 'Holland' Boat Company is affiliated, had built no less than 70 submarines of this type, or about double the number of submarines built in France up to the present time.



"In 1900 England gave her first order for 5 'Holland' submarines of 120 tons; in 1901 a new boat of 180 tons was ordered; in 1902 three boats of 200 tons; and in 1904 ten boats of 300 tons (afterwards increased to 350 tons) were ordered. Thus, in the last 5 years we see a total of 28 submarines laid down in England to a total of 38 altogether built in France. This slight superiority on our side is, however, only apparent, for while in France we are undecided between boats of small and large tonnage and speed, a constant advance in both is to be observed in England, where their aim is the construction solely of offensive sea-going submarines.

"From the first 'Holland' boat of 120 tons and 160-H.P., England has advanced to vessels of 350 tons and 850-H.P., while in France the latest submarines of the 'Emeraude' class will only have two engines of 240 effective H.P.

"If, now, we compare the total submarine tonnage ordered in France during the last five years with that ordered in England during the same period we arrive at the following:—

*France.*

1900, four of 'Sirène' class of 200 tons.

1901, twenty of 'Naiade' class of 68 tons.

And three numbered 'X,' 'Y,' 'Z,' of 200 tons.

1902, two of 'Aigrette' class of 200 tons.

1903, one submersible, 'Oméga,' of 400 tons.

And six submarines of 'Emeraude' class of 400 tons.

1904, two submarines of 'Guêpe' class of 44 tons.

Giving a total of 38 vessels of 6,048 tons, or a mean of 159 tons per vessel.

"The same calculation applied to England gives that country 28 vessels of 6,330 tons, or a mean of 226 tons per vessel, showing a superiority in tonnage of more than 40 per cent. over the French vessels.

"Why is there this difference? Why are the English submarines on an average more than half as big again as ours? The answer given is that it is a question of politics; that as our foreign policy is essentially pacific, our fleet should primarily be charged with the defence of our shores, and that any question of taking the offensive may be left aside for the present. It is this opinion which would appear to be responsible for our heterogeneous flotilla, for the most part defensive and universally condemned by all authorities on the subject. According to the report of M. Charles Bos, out of 58 submarines laid down in France in the last 18 years (1886-1904) only 16 are of the offensive type, representing only 27 per cent. of the total number ordered. As we have seen, England from the first built only submarines for attack, while we in France have taken nearly the opposite course.

"We constantly see it stated in the Press that the French submarine flotilla is superior to all others; is this true? We propose to examine this further in a future article.

(To be continued.)

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*Précis of M. Charles Bos's Report on the Naval Estimates for 1906 (continued).—The Gun Armament.*—As a ship is only a floating gun carriage, it is easy to understand the importance of the question of armament, especially since the Russo-Japanese War has upset the fighting conditions, to meet which the ships of war of European Navies have been constructed.

Fighting no longer commences at 3,000 yards, but at 6,000, 7,000 or 8,000 yards, or even more. Consequently artillery has to be devised whose heavy projectiles will produce the same effect at these long ranges as at 3,000 yards or under. We have, then, to consider in this study for our new ships:—

1. The *Personnel* of the naval artillery officers (construction of guns);
2. The guns and their projectiles;
3. The ammunition stocks;
4. The coast batteries.

With regard to No. 1, M. Bos recalls that in the Committee's Report last year they felt themselves compelled to call attention to the inconveniences arising from the transfer of the marine troops to the Ministry of War, and regretted that nothing had been done to remedy the regrettable situation which had arisen in consequence.

The officers of what was the Marine Artillery have now become, under the Ministry of War, the officers of the Colonial Artillery, and all are destined for service in the Colonies. In their turn on the roster some of them have been placed at the disposal of the Minister of Marine, first for service in the Department of Naval Ordnance, in the Rue Royale, in the arsenals, and *points d'appui* of the fleet, and then for service in the Ruelle Foundry to superintend the construction of naval guns, but only for a limited time, as they were obliged to return to their duties in the Colonies. The regulations on this point are imperative, as the officers depend for their promotion on their Colonial service.

It thus comes about that the Marine Artillery construct the guns which they never work, and that the gunnery officers of the fleet work the guns with the construction of which they have nothing to do. The inconveniences arising from this bastard organisation—or rather from this inorganic state of things—are easily comprehended.

M. Bos then, with his colleagues on the Committee, again put forward their demand for the creation of a corps of Artillery Engineers, to be placed under the control of the Department of Naval Construction, who will make their careers in the service of the Navy, and will obey the instructions coming from those who design and construct the ships of war.

Turning next to the question of the guns, M. Bos points out that mounted on board ships or lying about on the gun-wharves of the dock-yards can be seen 42-cm. (16·5-inch), 37-cm. (14·5-inch), 34-cm. (13·3-inch), 30·5-cm. (12-inch), 27·4-cm. (10·8-inch), 24-cm. (9·4-inch), 19·4-cm. (7·6-inch), 16·4-cm. (6·4-inch), 13·8-cm. (5·4-inch), 10-cm. (3·9-inch), and 8·8, 3·3, and 1-pounder guns, and each of these types has in turn three or four different models, such as the 1893, 1896, 1900, and 1902 models.

And in regard to the projectiles it is the same; each model of each type of gun possesses its own special supplies of shells, consequently there are to be seen in store and on the wharves, mountains of projectiles, most of which are unused because they cannot be utilised.

"A large number of the guns," he continues, "as a matter of fact, constructed at the Ruelle Foundry at great cost are obsolete and cannot be used. The projectiles often are the same, because it frequently happens that the new models cannot fire the shells of the guns they are replacing. The desire to do better and always to do better, which seems to be the line followed by the Marine Artillery, has given us an accumulation of *matériel* impossible to use, and only encumbering our dockyards. From the time that one gun which they have designed has given good results, they

hasten to manufacture a number sufficient to arm the new ships, and then they set to work to design another.

"Without doubt it is necessary to steadily progress and not to remain behind other countries; but it would be better to stick for some years to a gun which experience shows gives excellent results, as the English, German, and other nations do, constructing all the calibres necessary for our ships, providing spare ones and the necessary stores of ammunition and projectiles, both for present use and reserve.

"It must be further remembered that the guns mounted in our ships are of different patterns, which may well lead to difficulties at the arsenals when supplying ammunition, and to still more serious blunders when, in time of war, it is necessary to send supplies of ammunition to squadrons cruising at sea.

"It is no use having ships of war if the guns with which they are armed are not superior, or at least equal, to those of foreign Powers with whom we may find ourselves at war. Up to the present it has pleased all the French technical reviews to repeat that our naval guns are superior to the naval guns of all other countries; but is this true? For a certain time our guns, for the same power, have been lighter than similar guns in other Navies, because our gunners have preferred initial velocity to weight of projectile. We shall not criticise this preference. It is certain, as a matter of fact, that a projectile of a relatively inferior weight but discharged with a very high velocity can have, at a certain distance, a greater destructive effect than a projectile weighing more but fired with a less initial velocity. It is advisable, however, to remark that when the English and the Germans constructed heavy guns throwing heavy projectiles with a relatively high initial velocity, we tried to give higher velocities with lighter projectiles. The trajectory of our projectiles was consequently flatter than those of the English or Germans; the initial velocity was better maintained; it was greater, and permitted, further, the penetration of armour.

"But the result of this high initial velocity with light projectiles, in the models 1893-96, is that the powder chamber has been made so long and so little different from the bore of the gun that the projectiles can no longer be loaded with the same facility as formerly."

"As the result of the lessons from the earlier naval battles between Russia and the Japanese, we demanded interchangeable gun mountings, heavy projectiles, lower initial velocities, the suppression of medium artillery, the adoption of a large calibre, and the modification of our small guns, in addition to grouping them in armoured batteries. We pointed out further that the 65-mm. (8-pounder), 47-mm. (3-pounder), and 37-mm. (1-pounder) guns were too weak, and that it might be necessary to even substitute 100-mm. (4-inch) guns for them, and that in any case they must be removed from the tops, as they would infallibly come to grief before the action had lasted many minutes.

"The battle of Tsushima only confirmed the lessons of the previous battles, placing the question of the gun in the fore-front. Battles beginning at long ranges from this time on, it will be necessary only to use heavy guns and heavy projectiles, with a somewhat decreased initial velocity than we have been in the habit of giving to ours. Abroad, this principle has been admitted, and ships are already being built specially designed to resist torpedo attack, and carry only heavy guns and light Q.F. guns. Medium artillery has been, condemned.



"It is satisfactory to know that the Minister of Marine, the Director of Naval Artillery, the Chief of the General Staff, and of the Superior Council of the Navy, and finally the Director of Naval Construction are in complete agreement with us.

"We must have the means of striking the enemy hard, and there must be no failure of ammunition:—

1. One type of battle-ship;
2. One type of gun;
3. One type of shell.

The following policy has already been determined on by the Minister of Marine:—

1. Medium artillery to be given up in the battle-ships of the new programme;
2. To retain as the heavy artillery, the 12-inch, 9·4-inch, and 7·6-inch guns;
3. To abolish all cast-iron projectiles;
4. To adopt one type of steel projectile, capped and charged with a high explosive;
5. To increase considerably the weight of the projectiles;
6. To arm the small cruisers with a medium size gun, other than the 6·4-inch (16·4-cm.) and the 5·4-inch (13·8-cm.)—say a 15-cm. gun;
7. To adopt a larger Q.F. gun than the 65-mm. gun—say one of 75-mm.

One observation must here be made. Doubts have been expressed as to whether this new gun, which will fire 15 rounds a minute and throw a 14-pound steel shell, will be sufficiently powerful, and naval officers are asking very plainly for a 3·9-inch (100-mm.) gun; the Germans, it should be noted, are adopting one of 88-mm. But the gunnery authorities are of opinion that the new gun will be more powerful than similar calibre ones in foreign Navies. Its 14-pound projectile will have an initial velocity of 2,800 feet, and should pierce at 1,000 yards a thickness of steel of 4 inches, which is more than either the English or American 12-pounder guns can do.

8. The heavy guns to be mounted solely in pairs in turrets;
9. The small guns to be moved from the tops and placed, with the exception of the 3-pounders, in redoubts.
10. Special mountings for each gun of each calibre to be done away with. In future the mountings of guns of the same calibre will be interchangeable, and can be used in no matter what sort of turret the guns may be mounted.

"These changes mark a very important advance, and the Minister of Marine and his colleagues are to be congratulated upon them.

"The three battle-ships which figure in the Budget and form part of the new programme will be homogeneous. They will carry four 12-inch guns in pairs in turrets and twelve of 9·4-inch guns, also in pairs in turrets; that is, sixteen heavy guns but only of two calibres."

M. Bos then asks whether under these circumstances it would not be better to adopt at once only one calibre for the guns of the new ships. He thinks the 12-inch gun is too heavy, while the 9·4-inch may be, under certain conditions, not heavy enough, and he suggests that the 10·8-inch as an intermediary between the two might be adopted, and that a new model of this gun, to bring it thoroughly up-to-date, should be designed.

In concluding this part of his Report, M. Bos lays stress upon the absolute necessity of the supply of ammunition in the new ships being largely increased, the weakness of the French ships in this essential matter being notorious abroad, and he points out how fatally the Russians were hampered by the shortage of their ammunition supplies, which were fixed on the standard of the French Navy. Some steps have been taken by the present Minister of Marine to increase the reserve stocks of ammunition in the home arsenals, but the Committee hold that much more requires to be done in this direction, especially as regards the foreign bases of the fleet.—*Rapport du Budget Général de l'Exercice, 1906 (Ministère de la Marine).*

(To be continued.)

ITALY.—The following are the principal appointments which have been made:—Vice-Admiral—Bettolo to Command of the 5th Marine Department (Venice). Rear-Admirals—Bettolo to Vice-Admiral; Aubry to Command of Reserve Division; Bianco to be Under-Secretary of State for the Navy; Biotti to Command of Maddalena.—*Gazzetta Ufficiale.*

General.—As has been the case now for many years, progress in the Navy has been slow during 1905. One battle-ship, the "Napoli," has been launched, and there remain under construction the first-class battle-ship "Roma," laid down at Spezia in 1903; and the first-class armoured cruisers "San Marco" and "San Giorgio," both laid down at Castellamare in 1905. Completing afloat are the first-class battle-ships "Regina Elena" and the "Vittorio Emanuele III.," which are to be completed the first in the spring and the second in the autumn of 1907. During the past year the first-class battle-ships "Regina Margharita" and "Benedetto Brin," with the first-class armoured cruiser "Francesco Ferruccio," have been completed for sea and commissioned.

There were further building at the end of last year 30 destroyers; of these 20 are destroyers of a comparatively speaking small displacement, with engines only developing 3,000-I.H.P.; they have been designed by Messrs. Thornycroft, but are being built in Italy: 10 by the Pattison firm at Naples and 10 by the Ordero firm at Genoa. There are, further, 10 large 30-knot destroyers, also designed by Messrs. Thornycroft, building at the Ansaldo Yard at Sestri Ponente, of 350 tons displacement and 7,000-I.H.P., while four others are being constructed by the Schichau firm at Elbing.

A new gun foundry is to be established at Spezia, in which the Vickers firm is taking a leading part; the same firm has also acquired a considerable interest in the Terni and Odero Armour Plate Manufactories. At the end of January, on the Government range at Muggiano, a new 20.3-cm. (8-inch) gun was tried, and passed successfully through the proof; the weight of the steel projectile is 250 lbs., the charge 30.8 lbs. of balistite, and the initial velocity attained, 2,467 feet. Experiments were made at the same time with some new plates, made at the Terni works on the Krupp system, but the results were not satisfactory.

Launch.—The new first-class battle-ship "Napoli" was launched on the 10th September from the Royal dockyard at Castellamare. She is a sister-ship to the "Regina Elena," "Vittorio Emanuele III.," and the "Roma"; the last-named is to be launched this summer, and the four ships will form a powerful homogeneous squadron. Her dimensions are as follows:—Length over all, 474 feet (435 feet between perpendiculars);

beam, 73 feet 6 inches; draught, 25 feet 10 inches, on a displacement of 12,625 tons. Protection is afforded by a complete water-line belt of Terni steel 10 inches thick, tapering to 4 inches at bow and stern; partial belt to main deck over side amidships 8-inch; barbette armour 8-inch, with 6-inch hoods; secondary turrets, 6-inch; bulkheads, 8-inch; armoured deck, 4-inch to 1·5-inch; conning tower, 10-inch; on central battery for 4-inch Q.F. guns, 3-inch. The armament will consist of two 12-inch guns, one forward and one aft, twelve 8-inch Q.F. guns in pairs in turrets, three on each broadside, twelve 4-inch Q.F. guns in central battery, with twelve 3-pounders and 4-submerged torpedo-tubes. The engines are to develop 19,000-I.H.P., giving a speed of 22·5 knots, steam being generated in 22 Babcock and Wilcox water-tube boilers; the coal stowage is 1,000 tons, which can be increased on emergency to 2,000 tons, which will give a radius of action at 12 knots speed of 10,000 miles. Her complement will be 31 officers and 679 men.—*Marine Rundschau* and *Italia Militare e Marina*.

*The Naval Estimates for 1905-6.*—The Estimates, Ordinary and Extraordinary, for 1905-6 amount to 127,246,962·15 lire (£5,089,878 10s.), as compared with 127,191,083·16 lire (£5,087,643 6s.) voted for last year, showing an increase of 55,878·99 lire (£2,235 3s.).

The Ordinary expenditure shows an increase of 1,370,426·82 lire (£54,817 2s.) in general expenses, and a decrease of 575,268 lire (£23,010 15s.) in the expenses for the Fleet; but in the Extraordinary expenditure there is only a small increase in the general expenditure of 390,170 lire (£15,606 16s.) and a considerable decrease, amounting to 1,131,467·50 lire (£45,258 15s.), in that on the Fleet. There is a small increase of 2,017·77 lire (£80 15s.) in rent of Crown lands used for naval purposes.

#### ORDINARY ESTIMATES—GENERAL EXPENSES.

	Proposed, 1905-6.			Voted, 1904-5.		
	Lire.	£	s.	£	s.	
Ministry of Marine - - -	2,441,400·00 =	(97,656	0)	61,440	0	
Pensions, etc. - - - -	6,030,000·00	(241,200	0)	233,200	0	
Expenditure for the Mercantile Marine - - - -	9,799,361·32	(391,974	10)	381,372	0	
Total - - - -	18,270,761·32	(730,830	10)	676,012	0	

#### EXPENDITURE FOR NAVAL SERVICES.

Ships Fitting-out, in Reserve, etc.	6,535,000 =	(261,400	0)	242,800	0	
Officers' Corps in the Navy -	3,469,000	(138,760	0)	146,400	0	
Naval Engineers, etc. - -	1,333,500	(53,340	0)	54,040	0	
Paymasters and Victualling Department - - - -	818,000	(32,720	0)	33,160	0	
Medical Staff - - - -	684,600	(27,384	0)	27,600	0	
Men's Pay - - - -	12,380,000	(495,200	0)	516,000	0	
Gratuities, etc. - - - -	2,100,000	(84,000	0)	95,760	0	
Assistant Officials - - - -	125,000	(5,000	0)	4,800	0	
Technical Civil Personnel	1,440,000	(57,600	0)	56,636	12	
Minor Dockyard Officials and Staff - - - -	1,410,000	(56,400	0)	59,572	8	
Police - - - -	282,000	(11,280	0)	11,280	0	
Semaphore and Wireless Telegraphy - - - -	495,000	(19,800	0)	21,880	0	



	Proposed, 1905-6			Voted, 1904-5.		
	Lire.	£	s.	£	s.	
<i>Personnel of Coast Local Defence</i>	375,400 =	(15,000	0)	14,400	0	
Victualling - - - -	8,680,000	(347,200	0)	344,000	0	
Barracks, Lighting, etc. -	207,000	(8,280	0)	8,280	0	
Hospital Services - - -	550,000	(22,000	0)	21,920	0	
Naval Institute Professors' Salaries - - - -	376,115·45	(15,044	12)	12,884	0	
Coal and other Heating Material - - - -	6,300,000	(252,000	0)	240,000	0	
Ships' Commodities - - -	1,700,000	(68,000	0)	68,000	0	
<i>Personnel for Building and Fortifications</i> - - -	105,800	(4,232	0)	4,420	0	
Hydrographical Services - -	281,350	(11,254	0)	11,871	16	
Law Charges - - - -	32,000	(1,280	0)	1,280	0	
Transport of Material - - -	118,000	(4,720	0)	5,000	0	
Labour and Material for Construction and Maintenance of Fleet and Guns - - -	14,233,000	(569,320	0)	687,481	0	
Guns and Torpedoes - - -	2,700,000	(108,000	0)	104,000	0	
Material and Labour for Buildings - - - -	2,410,000	(96,400	0)	100,000	0	
New Construction - - - -	22,500,000	(900,000	0)	848,000	0	
Fuel, Stores, Dockyard Plant, etc. - - - -	6,550,000	(262,000	0)	208,000	0	
Salaries of Officials - - -	366,000	(14,640	0)			
Office Expenses and Clerical Salaries - - - -	178,000	(7,120	0)			
Rents and Royalties - - -	74,500	(2,920	0)			
Office Expenses, Civil Officials, etc. -	36,900	(1,476	0)			
Honorary Distinctions - - -				600	0	
Recreation Squares for Naval Academy, etc. - - - -				2,160	13	
Travelling Expenses - - -				24,615	0	
<b>Total - - - -</b>	<b>98,845,765·45</b>	<b>(3,953,880</b>	<b>12)</b>	<b>3,976,841</b>	<b>9</b>	

## EXTRAORDINARY ESTIMATES.—GENERAL EXPENSES.

	Proposed, 1905-6			Voted, 1904-5.		
	Lire.	£	s.	£	s.	
Travelling Expenses - - -	410,000 =	(16,400	0)			
Half-Pay, etc. - - - -	15,000	(600	0)	1,040	0	
Pay for Officers and Officials for Special Duties - - - -				353	4	
<b>Total - - - -</b>	<b>425,000</b>	<b>(17,000</b>	<b>0)</b>	<b>1,793</b>	<b>4</b>	

## EXPENDITURE FOR NAVAL SERVICES.

New Construction - - - -	2,612,334·55		169,652	2	
Coast Defence - - - -	300,000·00	(12,000	0)	8,000	0
Purchase of Land - - - -	600,000·00	(12,000	0)	8,000	0
<b>Total - - - -</b>	<b>3,512,334·55</b>		<b>185,652</b>	<b>2</b>	

## SUMMARY.

*Ordinary Expenditure.*

General Expenses - - -	18,270,761·32	—	676,012	0
Expenditure for Naval Services	98,845,765·45	—	3,976,841	9

*Extraordinary Expenditure.*

General Expenses - - -	452,000·00	—	1,393	4
Expenditure for Naval Services	3,512,334·55	—	185,752	2
Depreciation of Ships in Commission - - -	3,500,000·00	(140,000 0)	140,000	0
Rent of Crown Lands used for Naval purposes - -	2,693,100·83	—	107,643	9

Grand Total - 127,246,962·15 (140,000 0) 5,087,632 4

A sum of 27,143,802 lire (£1,085,752) is demanded for new construction, as compared with £1,032,272 voted for last year, being an increase of £53,480.

It is appropriated as follows:—

For continuation of the following first-class battle-ships: “Vittoria Emanuele,” at Castellamare and Naples; “Regina Ellena,” at Spezia; “Roma,” at Spezia; “Napoli,” at Castellamare and Naples. For continuation of a first-class cruiser—10,000 tons—at Castellamare. Commencement of a second-class cruiser—10,000 tons—at Castellamare. Commencement of coast-defence vessel at Venice. Completion of submarine “Glauco,” at Venice. Continuation of submarines “Squalo,” “Narvalo,” “Olaria,” and “Tricheo,” at Venice. Completion of transports “Bronte” and “Sterope.” Continuation of 3 first-class torpedo-boats. Completion of cistern-vessel, and 17 first-class torpedo-boats.—*Stato di Previsione della Spesa di Ministero della Marina.*

## MILITARY NOTES.

HOME.—The following are the principal appointments which have been made:—

Colonels—Lieut.-Colonel (local Colonel) F. S. Garratt, C.B., D.S.O., a Brigade Commander in India, is granted the substantive rank of Colonel in the Army. Colonel H. T. W. Hamilton, D.S.O., A.D.C. to the King, to be a Brigadier-General to Command an Infantry Brigade, and is granted the temporary rank of Brigadier-General whilst so employed. Colonel W. R. Birdwood, I.A., is appointed A.D.C. to the King. Colonel H. N. C. Heath, from A.A.G., 4th Division, to be an A.A.G. at Headquarters.

*The New German Rifle Bullet.*—The following angles of descent are required to complete the range tables in the memorandum on the new German bullet, communicated by the War Office. (See JOURNAL for February, 1905, p. 215):—

Range.	Angle of descent.	
	L.E.	S.
Yards.	deg. ins.	deg. ins.
1,500	5 22	3 53
2,000	9 56	7 39

*Memorandum of the Secretary of State Relating to the Army Estimates for 1906-7 :—*

*Total Estimates.*

The Army Estimates of 1906-7, viewed as a whole, embody no far-reaching change or new departure, but provide the money necessary to carry on the Army on its present footing for another year. I do not desire to attempt the introduction of serious changes in policy without taking full time for their consideration.

The total of the Estimates, £29,796,000, shows a decrease of £17,000 on that of 1905-6; but though the reduction is thus small, considerable economies have had to be effected in order to provide funds for certain minor but important measures as to the necessity of which there is no doubt, and to avoid the large increase arising from the growth of certain charges. Examples of these are :—

	£
Increased cost of Army Reserve - - - -	220,000
Increased charge for stores and clothing, due to the approaching exhaustion of the surplus stocks available from the late war - - -	290,000
Increased charge for service of loans - - -	60,000
Increased charge for pensions - - - -	27,000
	<hr/>
	597,000

In addition, the assignment to India in 1905-6 of a share of the output of rifles and small-arm ammunition had the effect of relieving Vote 9 of that year of some £185,000, for which in 1906-7 provision has again to be made within the total of Army Estimates. Before, therefore, there could be any question of a reduction of the total, increases to the extent of over £780,000 had to be absorbed.

*Establishment and Strength of the Regular Army.*

The real reduction in the establishment in 1906-7 is about 5,300 officers and men as explained at p. 4 of the Estimates. The chief causes are the disappearance of the Royal Garrison Regiment, which has now been almost completely disbanded, the reduction of some 1,300 officers and men of the Garrison Artillery at Colonial stations, referred to below, the reduction of the Royal Engineers by one survey company no longer required for the Ordnance Survey, and by about 550 officers and men in consequence of the transfer of submarine defences to naval control, and the disbandment of certain Colonial units from the same cause.

There will be again a double contingent of men passed to the Reserve, viz., the three years' men enlisted in 1903-4, as well as the usual contingent of seven (or eight) years' men under the earlier system; and the strength of the Reserve is expected to rise as high as 122,000 in consequence. With the present term of enlistment of nine years' Colour service in the Infantry, it is not to be expected that this efflux will be altogether balanced by the influx of recruits, and the strength with the Colours at home is not unlikely to fall below establishment; but steps are being taken to maintain the forces in India and the Colonies at their due strength.

It is not intended to proceed further with the formation of a separate branch of the Regular Army for home service with a two years' term of Colour service.

*Colonial Garrisons.*

Changes in Admiralty requirements have rendered it possible to reduce Colonial garrisons (with the approval of the Committee of Imperial



Defence) by about 3,000 officers and men, in addition to reductions of 10,500 effected in the Estimates of 1905-6. The reductions in 1906-7 include the whole garrisons of Halifax (Nova Scotia) and Esquimalt, the responsibility for the defence of which has been transferred to the Dominion Government in accordance with the announcement made by my predecessor in 1905-6.

With the exception of a few officers and men whose services have been temporarily lent to the Colony, the British garrison of Halifax has been brought home, and that of Esquimalt will follow shortly. The Dominion Government pays the cost of all troops at these stations, retained at the request of the Colony, as from 1st July, 1905.

#### *Medical Establishments.*

Provision is made to begin the formation of a Reserve of Civilian Surgeons, with some training in the special requirements of Army Field Hospitals, to be available on mobilisation for service abroad or at home. Steps are also contemplated for providing on mobilisation the necessary numbers of medical subordinates, both fully trained and auxiliary.

#### *Militia.*

An experiment will be tried during the winter of 1906-7 with 20 selected Militia battalions, the recruits of which will be drilled for six months, on enlistment, by their own (Militia) officers. In the training season of 1907, these battalions will be trained for six (instead of four) weeks. Moreover, recruits of these battalions will not be allowed to enlist into the Line until they have completed one annual training in addition to six months' recruit drill. The effect of these changes on recruiting, both for the Militia and for the Line, and on the efficiency of the selected battalions, will be carefully watched; and meanwhile no change in Militia establishments is made.

#### *Volunteers.*

The Estimate provides for the staff necessary for brigading the whole of the Volunteer Infantry under Brigadiers, who will be responsible throughout the year for the training and inspection of their battalions. Apart from this, no important change in the establishment or conditions of service of the force is proposed for 1906-7. The terms relating to camps will be the same as in 1905, attendance at camp as a condition of efficiency and the limit of minimum numbers for a "Class I." camp continuing in abeyance.

The strength of the force on 1st January last was 241,708, as compared with 245,525 on 1st January, 1905.

#### *Short Rifle.*

In accordance with an undertaking given by my predecessor to the House of Commons in the early part of 1905, further trials with the short rifle were made. For this purpose an experimental issue was made to the various commands at home, and reports were called for from India, where the troops were already in possession of the rifle. The reports received from the troops both at home and in India were of such a character as to determine the Army Council to proceed with the manufacture of the short rifle, and its issue to the infantry at home is now proceeding.

A considerable portion of the output of rifles in 1905-6 was allotted to India, but in 1906-7 this will not be the case, and the supply of arms to

troops on the British establishment will be greatly expedited, there being a total increase of £212,000 in the amount provided for this purpose in Vote 9.

It is calculated that by the end of 1906-7 we shall have a sufficient number of the new short rifles to completely re-arm the whole of our Regular troops at home and in the Colonies, together with their Reservists, in addition to a considerable number of reserve arms.

#### *Re-armament of Horse and Field Artillery.*

The original programme contemplated the provision of a certain amount of *matériel* for issue to India before the re-armament of the batteries on the home or Colonial establishments. Circumstances, however, arose which brought about a modification of this original arrangement, and during the autumn of 1905 it was decided to suspend the further issue of the new equipments to India and to proceed with the re-armament of certain batteries at home before completing the Indian issues. In pursuance of this decision, issue of the new equipments to batteries at home is now proceeding. In the course of manufacture, certain minor technical difficulties of construction have come to light, as is not unusual in cases where the *matériel* is of a novel and complicated character; but these have now been completely surmounted. Although they were the cause of some delay, it is not anticipated that they will appreciably, if at all, retard the completion of the whole programme by the date originally contemplated.

#### *Submarine Mining.*

As announced last year by my predecessor, the responsibility for the submarine defences at all ports at home and abroad has been transferred to the Admiralty, and the mines, with the vessels and gear connected with them, have all been handed over to the Navy.

The relief thus afforded to Army Estimates, in the provision and maintenance of *matériel*, is substantial; but the reduction of *personnel* is not as large as might at first sight seem due. The reason for this is that the Royal Engineer establishments for submarine mining also found the *personnel* for manning the electric lights connected with artillery defence of ports, and owing to the continued increase in the number of these lights without corresponding increase in men, only a small proportion of the so-called submarine mining units have been in recent years appropriated to "aquatic" duties.

Advantage has been taken of the opportunity afforded by the transfer of the mines to consolidate the establishments for the remaining Engineer duties at defended ports (electric lights, telegraphs, telephones, etc.), and owing to this and to the withdrawal of troops from certain Colonial stations, establishments show a net reduction of some 550 Royal Engineers of all ranks, and of some 170 native submarine miners.

The future of the Militia and Volunteer Submarine Mining units is at present under consideration.

#### *Educational Establishments.*

Advantage has been taken of vacant rooms at the Royal Military Academy, Woolwich, to accommodate an additional class of "Sandhurst" cadets there, so increasing the supply of officers to the Cavalry and Infantry.

A committee of representatives of the Treasury, Education Department, and War Office has been appointed to consider whether any reduction

can be effected in the number of regimental and garrison schools now maintained, by making use of the schools of local education authorities.

*Non-effective Charges.*

The Non-effective Votes, as already stated, show an increase of £27,000, owing to the growth of the charges for retired pay of officers and for soldiers' pensions. These votes are now about half a million higher than they were before the war, and their present tendency is upward rather than downward, as the charge for retired pay of officers, which was instituted after the abolition of the purchase system, has not yet reached its full growth; while the effect of the increases in the strength of the Army during the last 20 years, and of the more liberal scales of pension granted in accordance with public sentiment, is also now being felt.

R. B. HALDANE.

2nd March, 1906.

*Army Estimates.*—The detailed Army Estimates for 1906-7 have been issued as a Parliamentary paper [73], which contains the following abstract of the more important figures, arranged under the various votes :—

Nos.   Votes.		Net Estimates		Increase on net Estimates.	Decrease on net Estimates.
		1906-7	1905-6		
		Total Numbers.	Total Numbers.	Numbers.	Numbers.
A	I. - Numbers.				
	Number of Men on the Home and Colonial Establishments of the Army, exclusive of those serving in India ... ..	204,100	221,300	—	17,200
	II.—Ordinary Effective Services.	£	£	£	£
1	Pay, etc., of the Army ...	10,220,000	10,101,000	119,000	—
2	Medical Establishment;—				
	Pay, etc. ... ..	490,000	482,000	8,000	—
3	Militia : Pay, Bounty, etc. ...	819,000	817,000	2,000	—
4	Imperial Yeomanry : Pay and Allowances ... ..	423,000	438,000	—	15,000
5	Volunteer Corps : Pay and Allowances ... ..	1,244,000	1,220,000	24,000	—
6	Quarterings, Transport, and Remounts ... ..	2,111,000	2,190,000	—	79,000
7	Supplies and Clothing ...	4,492,000	4,630,000	—	138,000
8	Ordnance Department Establishments and General Stores (Ordinary Services)	745,000	808,000	—	63,000
9	Armaments and Engineer Stores (Ordinary Services)	1,386,000	1,306,000	80,000	—
10	Works and Buildings ...	2,353,000	2,330,000	23,000	—
11	Establishments for Military Education ... ..	132,000	130,000	2,000	—
12	Miscellaneous Effective Services ... ..	77,000	72,000	5,000	—
13	War Office and Army Accounts Department ...	559,000	545,000	14,000	—
	Total Ordinary Effective Services ... ..	25,051,000	25,069,000	277,000	295,000



*Army Estimates—continued.*

	III.—Non-Effective Services.				
14	Non-Effective Charges for Officers, etc. ... ..	1,694,000	1,677,000	17,000	—
15	Non-Effective Charges for Men, etc. ... ..	1,684,000	1,673,000	11,000	—
16	Civil Superannuation, Compensation, and Compassionate Allowances ...	180,000	181,000	—	1,000
	Total Non-Effective Services ... ..	3,558,000	3,531,000	28,000	1,000
	Total Ordinary Services	28,609,000	28,600,000	305,000	296,000
	Net increase on Ordinary Services ... ..	...	...	...	£9,000
	IV.—Extraordinary Services.	£	£	£	£
	Re-armament of Horse and Field Artillery.				
8	General Stores (Harness, Saddlery, etc.) ... ..	30,000	30,000	—	—
9	Guns, Carriages, Ammunition, etc. ... ..	1,157,000	1,183,000	—	26,000
	Total Extraordinary Services ... ..	1,187,000	1,213,000	—	26,000
	Grand Total—Ordinary and Extraordinary Services ... ..	29,796,000	29,813,000	305,000	322,000
	Net Decrease on Ordinary and Extraordinary Services			...	£17,000

(a) In consequence of a transfer between Army and Civil Service Estimates, in respect of the Emoluments of Officers of the Royal Engineers employed in Civil Departments, the Army Estimates are less by £4,000 than they would otherwise have been, the Vote affected being Vote 1.

NOTE.—The net Expenditure in 1904-5 is not here shown for purposes of comparison, owing to the complete rearrangement of the Votes in 1905-6.

Repayments by Government of India, included as Appropriations in Aid of Army Estimates; other than Stores, etc., issued on Repayment.	1906-7.	1905-6.
	£	£
To meet the Expenditure for Raising and Training Recruits for India ... ..	£62,700	560,000
For Deferred Pay and Gratuities for Service on the Indian Establishment ... ..	102,000	90,000
For Non-Effective Services of the European Army serving in India ... ..	947,801	927,188
	1,612,501	1,577,188
Deduct—Contribution from Army Funds towards Cost of Garrison of Aden and Sea Transport ... ..	230,000	230,000
	£1,382,501	£1,347,188

R. B. HALDANE.  
PORTSMOUTH.  
T. R. BUCHANAN.  
N. G. LYTTELTON.

C. W. DOUGLAS.  
W. G. NICHOLSON.  
J. WOLFE MURRAY.

E. W. D. WARD, *Secretary.*

War Office, 5th March, 1906.

ARGENTINE REPUBLIC.—*Musketry and Gymnastic Instructions.*—For several years the Government of the Argentine Republic has been endeavouring to propagate the instruction of musketry in order that every citizen should be a good shot, with a thorough knowledge of the infantry weapon. Under the patronage of the War Department are many associations which devote themselves to the teaching of target practice; the necessary ranges have been established throughout the Republic, and the citizens resort to them for practice. The Government encourages the organisation of shooting societies and the formation of ranges by providing the necessary arms and ammunition on loan, fixing a monthly subsidy, varying in accordance with the importance of the place. The progress of these societies is regulated by a recent decree, and is controlled by a Musketry Board under a field officer, who has various officers under him, for purposes of constant inspections, which are held with the object of investigating if the weapons provided by the Government are properly used, and if the instruction given is in conformity with the regulations laid down for it.

By means of an active propaganda the citizens have been imbued with a taste for musketry, thanks to the efficacious co-operation of the local authorities and of the principal inhabitants of each locality who thus second the action of the Government. The Congress, for its part, annually allots, in the War Budget, a subsidy for the special purpose of covering the expenses of these societies, for the construction of rifle ranges and for the distribution of prizes in the various meetings which take place continually. The ammunition, which is consumed on a vast scale, is gratuitously provided by the Government, with the sole condition that the empty cartridge cases must be returned, which are again loaded. The arsenal workshops work ceaselessly in the manufacture of ammunition in order to keep pace with the expenditure of the societies. Persons charged with instruction on the ranges are Reserve officers or ex-sergeants, corporals, or even private soldiers, who give their services gratuitously. Should certain societies ask for it, instructors are sent them from the Army. The weapon used by the societies is the same as that of the Army, viz., the repeating Mauser rifle, 1891 Argentine Model, with a 7.65-mm. calibre.

The Government action is not merely confined to instruction in the societies; it also enters into the secondary schools; and, lastly, with that object, a decree has been issued rendering instruction in musketry obligatory in these establishments, and at the same time appointing a certain number of Army officers to supervise this instruction.

Amongst the privileges conceded by the law on obligatory military service in the Argentine, is laid down the discharge, when called to the colours, of every conscript who can show a certain proficiency in rifle shooting.

Special attention is also devoted to gymnastics, and with this object every shooting society should be provided with all the necessary gymnastic apparatus, and the Minister of War has recently ordered all regimental commanders to devote themselves to its instruction. All the instructors come from the Special Gymnastic and Fencing School at Buenos Aires.—*La France Militaire.*

AUSTRIA-HUNGARY.—*Measures taken for Maintaining the Effective in Corps Recruited in Hungary.*—As was anticipated (see JOURNAL for January, 1906), the Austro-Hungarian War Department has taken steps to remedy, from the 1st January, 1906, the absence of the 1905 class in corps and Army establishments, which are recruited in the Kingdom of

Hungary. The Imperial and Royal decision of the 15th November last contains the following dispositions:—

### 1. *Calling out of Ersatz-Reservists.*

Ersatz-Reservists of Hungarian nationality belonging to the 1904 and 1903 recruit classes are called to the colours, in numbers equal to those of the recruits raised in 1904, and so as to maintain a full peace effective, after the liberation of the 1902 class, which passes into the Reserve on the 1st January, 1906. The service will commence on the 27th December, 1905, the day on which those called to the colours should appear before the commanders of recruiting districts. To avoid all difficulties with the civil authorities, the calling-out will be done simultaneously by means of notices posted on all Army buildings and on police barracks, as well as by means of notices sent to individuals interested through the post. The police will, in addition, take advantage of their daily patrolling duty to verify the results obtained by these dispositions.

The following classified in the Ersatz-Reserve are exempt from being called to the colours:—

- Candidates for Holy Orders.
- Teachers or Candidates for those Duties.
- Landed Proprietors.
- Supporters of Families.

It therefore only deals with men of "mediocre ability" and "in excess." In the event where, since October, 1905, re-engagements have been contracted by Hungarians, an equal number of Ersatz-Reservists will be immediately discharged, on their arrival, by corps to which the re-engaged men belong.

### 2. *Replacing of Discharged Cavalrymen.*

As the cavalry do not possess any supplementary reserve, it has been necessary to take special measures to avoid the necessity for retaining with the colours beyond the legal period the class entitled to discharge. Cavalry regiments will receive from infantry regiments, drawn from the same recruiting district, men who have already completed one year's period of service. These men will be taken from those who show the most aptitude for the mounted service, and will include 10 per cent. of candidates for promotion, as well as a certain number of artificers. The total number of infantrymen thus transferred must not exceed 300 for each cavalry regiment. These men will finish their 3 years' service in their new arm. According to the new order, no provision has been made to replace men liable to discharge in the Navy, the transport, and the special departments, which, like the cavalry, possess no supplementary reserve, and which are filled by recruiting for the Common Army.

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*Changes in the Organisation of the Chief Landwehr Commands.*—By decisions recently published in the *Verordnungsblatt*, the Emperor has approved of a certain number of changes in the constitution of the principal Landwehr commands. On the whole, the higher command is organised on the same basis as before, and continues to include the following grades:—

1. The chief command of the Landwehr.
2. Regimental commanders of the Landwehr District.
3. Commanders of Landwehr divisions.
4. Commanders of Landwehr brigades.



The new decision does not alter the duties of the Nos. 1 and 4 authorities. As regards the chief command of the Landwehr, it merely defines its executive duties, and especially regulates the existence of an adjutant-general, of a Chief of the Staff, with the rank of colonel, and of a judge-advocate, appointments which have already been in existence for several years, but which were not officially recognised.

It is especially the duties of the authorities Nos. 2 and 3 which undergo important changes. In Austria the same distribution of districts has been adopted for the Landwehr as for the Common Army. A Landwehr territorial district corresponds to every army corps district of the Common Army, and the army corps commander also commands the Landwehr district. On the other hand, the Landwehr troops, thus attached to each army corps, form a division, having at its head a divisional general, through whom the army corps commander exercises his authority over the Landwehr troops.

Hitherto the duties of the Landwehr divisional commander were appreciably greater than those of divisional commanders of the Common Army; on the other hand, the army corps commander, although having chief authority over the Landwehr division quartered in his district, had not the same complete authority over the troops and departments of that branch of the Service, as over those of the Common Army. As a matter of fact, the Landwehr divisional commander had the supervision of all the Landwehr departments and establishments; the recruiting, commissariat, medical, and judicial departments were all under that officer, who had, consequently, an organised staff. The army corps commander confined himself to the military command of the troops, to the supervision of training, of the preparation for war, and to disciplinary authority. He had only one officer of his staff available to deal with Landwehr affairs. The new rules give to the army corps commander, with regard to the Landwehr troops and establishments, exactly the same powers as he has over similar units of the Common Army, and naturally confers the same powers on Landwehr divisional commanders as held by those of the Common Army. The direction of the Landwehr services and the supervision of its establishments are under the army corps, the staff of which is increased by a section charged with dealing with all Landwehr matters. This section is under the Chief of the Army Corps Staff: it consists of a military office, a commissariat office, a medical, and finally of a technical sub-division. The general commanding the army corps exercises the same functions with regard to the Landwehr as to the other units of the army corps. He is especially concerned with the mobilisation of the Landwehr and of the Landsturm.

The staff of the Landwehr divisional commander is reduced in the same proportion. Its composition has been made precisely similar to that of an infantry division of the Common Army. The Landwehr divisional commander, on the other hand, and in conformity with the general military organisation, is entrusted with the inspection, from an instructional point of view and also as regards its preparation for war, of the artillery regiment of the Common Army attached to his division in the event of war.—*Revue Militaire des Armées Etrangères*, and *La France Militaire*.

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UNITED STATES. — *Report of Inspector-General, U.S.A.* — Brigadier-General George H. Burton, I.G., U.S.A., introduces his annual report with a tribute to the officers of his department, remarking that it gives him pleasure to commend them, "without

exception, for their faithful, zealous, and conscientious performance of the many delicate and important duties entrusted to them—duties that are exacting, and often performed at the expense of great personal discomfort and inconvenience.”

General Burton reports that the general condition of the Army as to instruction and efficiency is reasonably satisfactory. Both officers and men appear to be working honestly and faithfully along the lines laid down by the authorities, but their efforts are frequently impeded by obstacles beyond the power of commanding officers to remedy, such as detached service of officers, insufficient coast artillerymen, and the maintaining of one and two company cavalry and infantry posts.

The state of instruction of the cavalry troops at twenty-eight posts in the United States and the Philippines is described as follows:—At sixteen posts, well instructed; at six, satisfactory; at five, progressing satisfactorily or fairly well; and at one, poor. Instruction in swimming horses does not appear to have been given at as many posts as practicable.

The drills of the Field Artillery were satisfactory, and the horses, guns, carriages, implements, and equipment were in good condition. General Burton is of the opinion that two siege batteries should be stationed at the same post. This would insure uniform training and increase the efficiency of the service in many ways. The organisation of two provisional regiments of Field Artillery, as authorised by General Orders, No. 89, War Department, 14th June, 1905, is welcomed as an advance step towards the instruction of this important arm in modern tactical methods.

The Coast Artillery is generally well instructed, and its efficiency is increasing as modern systems of fire control and direction are installed. Instruction in the use of telephones in stations and artillery definition were not satisfactory at several posts. At Fort Monroe the non-commissioned officers throughout the command showed good knowledge of the equipment and its use, but the privates, as a rule, were not so well informed. Infantry drills were generally satisfactory. At five posts the men were not well instructed in the use of the sight on magazine rifles, and were ignorant concerning multi-ball cartridges. It is of paramount importance that legislation be enacted increasing the strength of the Coast Artillery. The separation of the Coast from the Field Artillery is also important. It is unjust to the officer to expect that he can be thoroughly efficient both as a coast and a field artilleryman. The two services have very little in common; but for the most efficient service in either an officer requires different training, different qualifications and characteristics. There is a shortage of officers at every Coast Artillery post.

The state of instruction in the infantry commands, reported at fifty-four posts in the United States and the Philippines, is classified as follows:—At thirty-nine posts, well instructed; at four, satisfactory; at eleven, progressing satisfactorily or fairly well. In all branches of the Service the advantages derived from physical training were evident in the improved physique and set-up of the men. “In the future instruction of infantry,” says General Burton, “we should not forget the important results obtained from night attacks and bayonet charges during the late war in Manchuria. Usually they attack at night; if they gain the position, daybreak finds them entrenched, is a lesson in Japanese tactics worth studying.”

Noting the growing sentiment in favour of having a Chief of Cavalry and a Chief of Infantry, General Burton remarks: — “These officers

should be appointed upon the recommendation of boards of general officers, from the list of colonels of each arm concerned, to be detailed for a term of four years, and to have the rank, pay, and allowances, while so serving, of a brigadier-general. They should be made under the same conditions as now govern in the case of officers detailed to the special staff corps under the Act of 2nd February, 1901. Both officers should be limited in assistants to one officer, to be taken from their respective corps, thus effectually checking any tendency toward making them bureaus of the War Department. A great step forward has been made and the efficiency of the artillery increased by having a representative in the War Department in the person of the Chief of Artillery. It is fair to presume that similar action taken by the Government for the infantry and the cavalry would meet with like results. It is therefore urgently recommended that the Secretary of War and Chief of Staff consider this subject with a view to early action."

The report of inspectors show that unquestionably the efficiency of the line of the Army is injuriously affected by the absence from their commands of so many officers, especially of those of the rank of captain and field officer. Such a deplorable situation has been brought about by separating officers from their proper commands for all kinds of duty, some of which is not infrequently of a non-professional nature. There are, for instance, seventy-nine colleges in the United States to which officers are detailed by Act of Congress as military professors. It is General Burton's opinion that where details are of such nature as to call for permanent absence from the Army for a given number of years, the deficiency should be met in the same way and manner as such details are provided for in the special staff corps.

The Inspector-General dwells most earnestly upon the injury resulting to the Service from the absenteeism of captains. He illustrates this absenteeism by citing a group consisting of 100 captains of Cavalry, 19 of Field Artillery, 79 of Coast Artillery, and 200 of Infantry. Of this group of 398 captains, 155 (or 38.94 per cent.) were absent from their commands at the date of the last annual inspection. At the same time, seven companies of Cavalry, two of Field Artillery, six of Coast Artillery, and twenty-four of Infantry were commanded by second lieutenants. It is believed that the record of absenteeism as to the 398 captains above considered may be taken as a probable average for the Army as a whole. General Burton makes the following comment:—"The Regulations of the Army, up to within a few years past, contained a paragraph prohibiting the separation of cavalry captains from their troops. The Regulation was not infrequently violated, but this violation never resulted in the partial demoralisation that exists to-day. The cavalry officer who is willing to abandon and thus subject his troop to the resulting injury that such organisation invariably receives by shifting control from one lieutenant to another, invites the assumption that he does not appreciate that pride inherent in the true cavalryman, who feels that the command of a troop, or of a regiment of horse, is the ambition of his life—the prize of fortune—the perfection and training of which is to be neglected for a detail less enviable than as aide to the Commander-in-Chief of the Army and Navy, to the General Staff, the War College, or as Instructor of Cavalry at the U.S. Military Academy and the Cavalry and Field Artillery School. A cavalry officer, therefore, who will seek details other than those above mentioned, should give way to one who would be willing to take charge of the high office vacated by him, and who will esteem it an honour and a pleasure to have such an important command.



For years in the Field Artillery service the position of the captain of a light battery has been so sought after and prized that when once detailed there are but few instances on record where one of these officers has voluntarily given up the command for a detail of lesser magnitude. And why is this so? Because the command is tendered to him to last through efficient service only, whereas the cavalry captain's command is permanent during good behaviour. The abandonment of his command by order of higher authority enables him to remain away as long as his luck for getting details lasts, and at the end of his detail, whether long or short, if still a captain, he has his troop to return to.

"It would be in the interest of good military instruction and discipline if some of the first-class infantry captains, who prefer the cavalry, should be given those commands instead of the officers who are willing to neglect them for other duties. Most lieutenants of five or six years' service can command an infantry company intelligently,\* but there are few lieutenants of cavalry at the present time who have the knowledge and experience to properly train and care for the equipment of a troop of cavalry. It is believed that a wholesome remedy for the cure of this evil may be found if the War Department will take measures to secure legislation authorising the President to shift or transfer mounted captains from the cavalry to the infantry in case, after due notice, they elect to remain on detached service away from their troops."

The Service schools at Fort Monroe, Fort Riley, and Fort Leavenworth were found in satisfactory condition, as were the garrison schools for officers and men. Speaking of the training of Militia officers at the Infantry and Cavalry School and Staff College, it is recommended that no such officers be sent to Fort Leavenworth until their qualifications for entrance have been proved. It is also recommended that legislation be obtained so as to render it practicable to examine these officers at the military posts most convenient to their places of residence instead of sending them for examination to the Infantry and Cavalry School.

After considering the subject of desertion at great length, General Burton suggests:—"That the first three months of service be simply under a contract covering that period of time, the Government to reserve all pay above 5 dollars per month under said contract. If the applicant elected to sever his relations with the Government he should forfeit the back pay thus reserved. This plan presupposes the retention of all recruits at depôts for ninety days, a place where and a period during which they could and do get better instruction in first principles than they ordinarily receive with their companies. Besides the advantage to the man, it would be a convenience to the Government in that during this probationary period, officers would have an opportunity to judge whether it was advisable to enlist the individual under consideration."

The present system of inspecting schools and colleges where military instruction is given, which places the duty under the direction of division commanders, has not proved satisfactory, and it is recommended that such inspections be directed from the War Department. Another recommendation by General Burton is that at all posts to be occupied for any extended period, arrangements be made for the accommodation of a battalion, whether it be mixed or composed of either cavalry or infantry.

—*U.S. Army and Navy Journal.*

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VENEZUELA.—*The Military Forces.*—The Regular Army consists of 9 infantry battalions, including the Guards' Battalion; 1 artillery battalion; 1 cavalry squadron; and 2 companies of Marine infantry. Each battalion has

6 companies with a strength of 60 men each. In the event of war the Army may be reinforced by the Militia, the effective of which is reckoned at 100,000 men. It may be added that this Militia appears only to exist on paper. According to the Constitution, however, every citizen capable of bearing arms belongs to the Militia from 18 to 50 years of age.

The country is divided into 5 military districts, each being commanded by a general officer. The commanders of the military districts receive their instructions direct from the President. They have each a State secretary and 2 assistants allotted them. The War Department administers the Army; it consists of the War Minister, a Director of War, a Director of the Navy, a Director of Statistics and Accounts, 12 field officers and secretaries. The following are attached to the War Department: the Inspector-General of the Army and the Supreme Council of War, which consists of 15 general officers.

The officers' *personnel* consists of: 4 generals-in-chief, including the President and the War Minister; 28 generals-in-chief nominated by the President; 1,439 generals; 1,462 colonels, 2,302 majors, 3,230 captains, 2,300 lieutenants, and 1,000 ensigns; or altogether, 11,765 officers, although the Regular Army only consists of 4,000 men, in round numbers!

Even admitting that the Militia might be mobilised, there would still be 11 officers to every 100 men. It is true that these numerous officers are merely officers in name; it is an honorary rank they have. A certain number receive pay, and only a few of them really do any duty. The recruiting of the officers is carried out according to the pleasure of the Chief of the State at the moment. The officers of artillery receive a more or less serious instruction at the Artillery Academy.

The training of the Regular Army consists in some very simple drills and in exercises for the handling of arms. Only that of the Guard is carefully carried out. As aiming and musketry drills are entirely lacking, the men do not know how to use their rifles, and generally fire resting the butt on the hip. The artillery is not horsed; it has 30 Krupp 8-cm. field guns and 10 Krupp 6-cm. mountain guns. Both are partially used in the armament of forts.

There is no tactical training, the result being that the military value of the Army is very small. On the other hand, the Venezuelan soldier, who is accustomed to the climate, to fatigue, and all sorts of privations, might be advantageously employed in minor operations, the more so as the nature of the country would render it difficult for an enemy to profit by his tactical superiority. As regards discipline, there is absolutely none even in peace time, the officers themselves being far from disciplined. In war, entire Venezuelan units have been known to go over to the enemy.

As regards the Navy, it has 4 steam-boats, 4 gun-boats, and 1 torpedo-boat. The most important of the steamers, launched in 1898, with a displacement of 1,200 tons, has only 11 12-cm. guns and 4 machine guns as armament.—*Revue du Cercle Militaire.*

# NAVAL AND MILITARY CALENDAR.

FEBRUARY, 1906.

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- 6th (T.) H.M.S. "Donegal" commissioned at Devonport for China.  
 " " H.R.H. the Prince of Wales presented a new Standard to the 6th Dragoon  
 Guards (Carabiniers) at Bangalore, India.
- 9th (F.) 1st Brigade R.H.A. } arrived in India from South Africa  
 " " 10th Brigade R.F.A. } and Mauritius in the "Soudan."  
 " " 1st Bn. Northumberland Fusiliers }
- 10th (Sat.) Launch of H.M.S. "Dreadnought" at Portsmouth.
- 14th (W.) "I" and "L" Batteries R.H.A. } left England for India in the  
 " " 39th Brigade R.F.A. } "Assaye."
- 15th (M.) H.M.S. "Donegal" left Plymouth for China.
- 16th (F.) 2nd Bn. Yorkshire Regiment left India for South Africa in the  
 "Soudan."
- 17th (Sat.) General Linievitch resigned the command of the Russian troops in the  
 Far East.
- 18th (S.) The Funeral of King Christian IX. of Denmark took place at Roskilde.
- 19th (M.) H.R.H. Prince Arthur of Connaught arrived at Tokio.  
 " " 1st Bn. East Yorkshire Regiment arrived in England from India in the  
 "Ionian."
- 20th (T.) H.R.H. Prince Arthur of Connaught invested the Emperor of Japan with  
 the Insignia of the Order of the Garter.
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## FOREIGN PERIODICALS.

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## NOTICES OF BOOKS.

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*Military Operations and Maritime Preponderance: Their Relations and Interdependence.* By Colonel C. E. CALLWELL. London: William Blackwood & Sons.

This work is extraordinarily complete, and perhaps therein—ungracious as it may seem to say so—lies its chief, indeed its only, fault, for those who need most sorely the enlightenment to be gained from a study of its pages, are probably just those who will be most unwilling to seek instruction from a work of such magnitude.

"The soldiers of a great maritime Empire, the territories of which are scattered all over the globe, must understand the broad principles of the art of naval war ere they can appreciate the problems of its defence. The *personnel* of a Navy which may have to shepherd armies over the seas in time of danger, to set them ashore and to minister to their wants when ashore, will not perform its duties the less effectively if it realises the difficulties, the limitations, and the purposes of operations on land." That the officers of both Services study each their own profession with ever-increasing diligence is to-day happily unquestioned; that each of them know as much as they ought about the others' business is open to doubt; and it is possible that the serious differences of opinion between naval and military experts over fundamental questions of defence policy arise from the fact that "each only understands one side of the case in which they are unwittingly acting as opposing counsel rather than as judicial arbiters." The text, then, of Colonel Callwell's book is, that while sea power in war time is greatly dependent upon the support of military force, the action of armies is often subservient to and only justified by the existence of a dominant Navy. By ships of war, by and of them—



selves, decisive results cannot be gained, while overpowering armies may be prevented from acting where they could do best service, through the preponderating sea power of the opponent.

That sea power and military force are dependent the one upon the other is shown upon every page of Colonel Callwell's book, and supported by an extraordinary wealth of examples from the history of the past. There can be no gainsaying or disputing the truth of the author's remark, that "the ability of amphibious force to inflict grave injury upon the foe is usually immense. The capabilities of purely naval force to cause the adversary damage is often very limited."

Upon the subject of naval bases, Colonel Callwell has much to say that is very sound; the multiplication of fixed defences he rightly dubs "a vicious military policy," but he declares that every port necessary for the maintenance and replenishment of a fleet should be able to hold out for a time and be independent of that fleet. And in the mention of our wonderful chain of naval bases round the world, the writer takes the opportunity of bringing forward again the argument of his book—the interdependence of fleets and armies. "Did these precious possessions," he says, "fall into our hands by accident or by right of conquest? And if they are ours in virtue of operations of war, were those operations purely naval? Halifax and Bermuda and Esquimalt were gained by peaceful settlement; Hong Kong was ceded by China after the first China war; Singapore was relinquished by arrangement with a local rajah; but what of the others? Jamaica was captured by a military force under Venables; St. Lucia fell to a military expedition; Malta was taken after a prolonged siege; Colombo is ours by right of conquest from the Dutch; Simon's Bay was secured by a conjoint military and naval undertaking; Mauritius was captured by an army despatched expressly for the purpose. In every case the operation was founded upon sea power; but it was a military operation for all that."

For the Nation there are several lessons to be learnt from the evidence set before us. Bacon says: "He that commands the sea is at great liberty, and may take as much and as little of the war as he will," from which we may understand that by reason of our naval supremacy we ought to be able to choose the theatre of war and force an opponent to fight upon the ground that best suits us. Another lesson may be learnt from the following three quotations: 1. "In estimating the influence of maritime preponderance over land campaigns, care must be taken not to exaggerate its power while realising its possibilities." 2. "There is a dangerous idea prevalent in this country that because a dominating Navy is the best safeguard for its security, the complement of sea power, military force, is of altogether secondary force to a State so situated. . . . Naval resources unaided cannot, under the ordinary conditions which arise in warfare between maritime nations, inflict upon an enemy the amount of injury necessary to bring about collapse." 3. "The very fact of possessing overwhelming naval forces compels a nation to maintain military forces, if its naval forces are to have full scope for effective action when hostilities take place. . . . So far from preponderance at sea obviating the need for the upkeep of military force, it may increase that need in obedience to what is a strategical law." Colonel Callwell brings forward a mass of the best evidence in support of his contentions; the scope of his book is wide, and the importance of his subject is incontestable. The author is to be congratulated on the production of a work which none can read without profit.

## PRINCIPAL ADDITIONS TO LIBRARY, FEBRUARY, 1906.

*Notes on the Geology of the Continent of Africa.* With an Introduction and Bibliography. Compiled in the Department of the General Staff, War Office, by ALEXANDER KNOX, B.A., Map Curator. Official. 8vo. 3s. (Presented.) (Harrison & Sons.)

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*Success among Nations.* By Dr. EMIL REICH. 8vo. 10s. 6d. (Chapman & Hall, Ltd.) London, 1904.

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*Küstenschutz und Unternehmungen gegen denselben an der Schleswig-Holsteinisch-Jütischen Nord und Ostseeküste im Feldzug, 1864.* By Cardinal VON WIDDERN. 8vo. (Presented.) Berlin, 1906.

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*Voluntary versus Compulsory Service.* By Captain F. N. MAUDE. 8vo. (Presented.) (Edward Stanford.) London, 1897.

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*A History of the Mess Plate of the 88th, the Connaught Rangers.* By Captain H. F. N. JOURDAIN. 8vo. (Presented.) (Ballantyne Press.) Edinburgh, 1904.

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*The Outskirts of Empire in Asia.* By the Earl of RONALDSHAY. 8vo. 2ls. (William Blackwood & Sons.) Edinburgh, 1906.

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*The Journal of John Jourdain, 1608-1617, describing his Experiences in Arabia, India, and the Malay Archipelago.* Hakluyt Society. Second Series. Vol. 16. Edited by WILLIAM FOSTER, B.A. Cambridge, 1905.

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*The Risen Sun.* By Baron K. SUYEMATSU. 8vo. 12s. 6d. (Archibald Constable & Co., Ltd.) London, 1905.

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*Porfirio Diaz, Seven Times President of Mexico.* By Mrs. ALEC TWEEDIE. 8vo. 2ls. (Hurst & Blackett, Ltd.) London, 1906.

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*Les Campagnes de 1799—Jourdan en Allemagne et Brune en Hollande.* By EDOUARD GACHOT. 8vo. (Presented.) (Perrin et Cie.) Paris, 1906.

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*The Regimental Records of the 1st Battalion Royal Dublin Fusiliers, formerly 102nd Royal Madras Fusiliers, 1st Madras Fusiliers, the Madras European Regiment, 1842-1904.* 8vo. (Presented.) n.p., 1904.

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*The Salamanca Campaign.* By Captain A. H. MARINDIN. Royal 4to. (Presented.) (Hugh Rees, Ltd.) London, 1906.

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*Catalogue of British, Hanoverian, and other Waterloo Medals in the collection of Henry Gaskell, with Notes on the Last Survivors by N. Kynaston Gaskell.* By HENRY GASKELL. 8vo. 7s. 6d. (Oswald Fitch.) London, 1905.

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*Field Artillery Training, 1906.* Official 12mo. 1s. (Presented.) (Harrison & Sons.) London, 1906.

*List of the Officers of the Several Regiments and Corps of Fencible Cavalry and Infantry; of the Officers of the Militia; of the Corps and Troops of Gentlemen and Yeomanry; and of the Corps and Companies of Volunteer Infantry.* 8vo. (Presented.) War Office, 1795.

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*Regulations for the Equipment of the Army.* Part I. 8vo. 1s. (Presented.) (Harrison & Sons.) London, 1906.

---

*Jane Austen's Sailor Brothers.* By J. H. HUBBACK. 8vo. (Presented.) (John Lane.) London, 1905.

---

*Sechs Monate beim Japanischen Feldheer.* By Major BRONSART VON SCHELLENDORFF. 8vo. 7s. 6d. Berlin, 1906.

---

*With the Cossacks.* By F. McCULLAGH. 8vo. 7s. 6d. (Eveleigh Nash.) London, 1906.

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*The Africander Land.* By A. R. COLQUHOUN. 8vo. 16s. (John Murray.) London, 1906.

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*La Marine qu'il nous faut.* By CHARLES BOS. Crown 8vo. 2s. 8d. (Berger-Levrault et Cie.) Paris, 1906.

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*Russian Projects against India.* By H. SUTHERLAND EDWARDS. 8vo. (Remington & Co.) London, 1885.

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*Acts of the Privy Council, A.D. 1598-9.* New Series. Vol. 29. 8vo. 10s. Edited by direction of the Lord President of the Council by J. R. DASNET, C.B. (Mackie & Co., Ltd.) London, 1905.

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*The British Army under Wellington, 1811-1813.* By T. MILLER MAGUIRE. 8vo. 6s. (William Clowes & Sons, Ltd.) London, 1906.







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# COLOURS OF THE CITY OF LONDON TRAINED BANDS AND AUXILIARIES

(A.D. 1642.)





# THE JOURNAL

OF THE

## ROYAL UNITED SERVICE INSTITUTION.

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VOL. L.                      APRIL, 1906.

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No. 338.

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*[Authors alone are responsible for the contents of their respective Papers.]*

### SECRETARY'S NOTES.

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1. The following officers became members of the Institution during the month of March :—

Lieut.-Colonel R. C. Money, Yorkshire Light Infantry.

Sub-Lieutenant D. H. V. Wilson, R.N.

Captain E. P. Thomson, Royal Munster Fusiliers.

Major F. W. Kerr, D.S.O., Gordon Highlanders.

Major F. C. Lloyd, Lincolnshire Regiment.

Lieutenant G. I. McAlister, Canadian Militia.

Captain W. E. Lees, R.E.

Colonel W. S. Gordon, late R.E.

Second Lieutenant C. R. C. Boyle, 3rd Battalion Oxfordshire Light Infantry.

Captain C. H. M. Bingham, A.S.C.

Captain H. Grant-Dalton, R.N.

Colonel F. Campbell, D.S.O., Indian Army.

Colonel G. H. C. Dyce, C.B., late Indian Army.

Captain P. C. B. Skinner, Northamptonshire Regiment

Lieut.-Colonel N. Bannatyne, late East Lancashire Regiment.

Major J. E. C. Matthews, late Gloucestershire I.Y.

Second Lieutenant G. M. Atkinson, K.R.R.C.

Second Lieutenant F. R. A. N. Knollys, City of London I.Y.

Lieutenant F. H. L. Oldham, R.A.

Captain J. H. Bruche, D.A.A.G., Victoria.

Captain P. W. Game, R.A.

Lieut.-Colonel D. A. Macfarlane, D.S.O., King's Own Scottish Borderers.

Captain C. Mellor, R.E.

Midshipman A. F. Inglefield, R.N.

(No officers of the Royal Naval Reserve or Volunteer Force joined the Institution during the month.)

2. The Council have decided to hold a Reception towards the end of June. Details will be circulated in due course.

3. The subject of the Naval Essay for the current year is :—

“What is the Relative Value of Speed and Armament, both Strategically and Tactically, in a Modern Battle-ship, and how far should either be sacrificed to the other in the ideal ship?”

4. Admiral Sir R. H. Harris, K.C.B., K.C.M.G., President of the Royal Naval College, Greenwich, has been appointed Chairman of the Council for the year 1906-7.

5. Major-General Sir G. H. Marshall, K.C.B., has been appointed Vice-Chairman of the Council for the year 1906-7.

6. The Council regret to record the death of Colonel Stanley Arnold, C.B., of Barton House, Moreton-in-Marsh. Colonel Arnold commanded the Lancashire Royal Garrison Artillery Militia, and shortly before his death placed the sum of two hundred guineas in the hands of the Council to provide prizes for the 1906 Special Essays, the subject of which was set at his suggestion, and to defray the cost of their publication. Colonel Arnold had at other times been a generous contributor to the funds of the Institution.



T.U.S.C.

## GOLD MEDAL PRIZE ESSAY.

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*Subject:—*

“IN THE EVENT OF WAR WITH ONE OR MORE NAVAL POWERS, HOW SHOULD THE REGULAR FORCES BE ASSISTED BY THE AUXILIARY FORCES AND THE PEOPLE OF THE KINGDOM?”

*By Major W. C. BRIDGE, South Staffordshire Regiment, D.A.A.G., Mauritius.*

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“*God helps those who help themselves.*”

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### INTRODUCTION.

IT may seem at first sight that in the subsequent pages the subject of this essay is somewhat lost to view at times; but that is not really so, for if we ask how the Auxiliary Forces and the people of the kingdom can assist the Regular Forces in the event of war, the incontrovertible answer is, that they cannot do so at all unless the methods and the plan of action are carefully thought out and decided upon in advance during peace, and unless we make up our minds beforehand what we require of them. That is the axiom which forms the basis of this discussion, which is devoted to a consideration of what measures should be taken, or at any rate preconcerted, *now* in order to ensure our Regular Army obtaining the best possible assistance when the crisis comes. When the invader is already in our midst it will be too late to proceed to the devising of methods for repelling him, and arrangements made now for providing and maintaining the minimum force which probabilities suggest as requisite will be of far greater utility than the provision in the hour of danger of hosts of ill-trained and undisciplined men with muskets to meet a foe operating on plans which he has spent years in perfecting, and whose troops have been carefully prepared for the task of carrying them out. The lesson to be learnt from the later stages of the Franco-German War and the constant failure which attended the ill-judged efforts of Gambetta's raw levies should suffice to convince us of the futility of endeavouring to raise and organise armies in the day of battle, and of the necessity for preparing everything beforehand.

This essay will therefore be divided into the following parts:—

Part I.—A consideration of the situations with which we are likely to have to deal.

Part II.—An analysis of the present condition of our Regular Army on home service and its ability to deal with the situations referred to in Part I., with suggestions as to any changes of organisation that appear desirable.

Part III.—An analysis of the present condition of the Auxiliary Forces and their ability to assist the Regular Army, with suggestions as to changes which should be effected in their organisation and training in order to render them more effective for the latter purpose.

Part IV.—A discussion as to how far the population of the country can and should assist the military forces, re-organised as advocated in Parts II. and III., in a war of the nature with which this essay deals.

## PART I.

### *A Consideration of the Situations with which we are likely to have to deal.*

On this point there is considerable diversity of opinion. The extreme alarmists base their fears and their calculations on the assumption that there are certain Powers, who are more than possible foes, who would find little or no difficulty in throwing an overwhelming military force into Great Britain and in maintaining it there sufficiently long for their purposes. The incurable optimist, on the contrary, laughs at the idea of serious invasion, confidently quotes von Moltke's dictum as to the ease with which he could land 200,000 men on our shores, and the hoplessness of attempting to withdraw them again, and claims our island situation as almost sufficient protection in itself. Between these two limits we have varying shades of opinion. There are those who believe that whilst an enemy would find it impossible to invade us with an enormous host, he could certainly do so with a force sufficiently large to justify him in taking the risk, and too large for us to hope to deal with except under the most favourable circumstances, having regard to the present organisation, size, and distribution of our land forces.

Others, again, are satisfied that the worst we have to fear is a sudden "raid" by a force of not more than 10,000 or 15,000 men. This category may be said to be the most numerous of all, and is encouraged in its belief by the knowledge that it is shared by so influential a body of experts as the Admiralty Board. Most of the leading organs of the Press hold this view, and consequently most of the men in the street also, whose opinions are formed for them by the Press. It is not surprising to find that it is embraced by the majority of politicians of both parties, and especially by successive Cabinets as represented by Ministers for War, who are only too ready to yield to the temptation of believing anything which will still their consciences and absolve them from attempting the impossible task of reconciling popular budgets with the provision of an adequate and adequately trained Army. The tendency to believe what we wish

to believe is irresistible to the average man, and it is, of course, pleasing to the people of this country to hug the assurance that duty and patriotism demand no sacrifice from them; and thus it has come about that those who insist that we are living on the lip of a smouldering volcano in our admitted unpreparedness (once the fleet is got out of the way some how or another) to meet an invasion are ridiculed, and can find no hearing, whilst those who confidently boast of our security and our adequate Home Army are deferred to by all classes. The chief reasons upon which the believers in the possibility of a serious invasion base their belief are as follows:—

1. The teachings of history.
2. The ability to act rapidly and to evade defending fleets, conferred by fast steaming power, wireless telegraphy, and other modern means of obtaining prompt and accurate information.
3. The greater independence of weather considerations, enjoyed by the modern fleet.
4. The levelling up of the fleets of other Powers as regards both numbers and power of ships, the quality and quantity of their *personnel* and by reason of the changes in the mode of conducting naval warfare.

#### 1. *On the Teachings of History.*

The mere fact of its being an island has never, since Armies and Navies organised more or less on present principles came into existence, served to protect a territory from invasion, even in the days of sailing-ships and the absence of well-thought-out plans. The girdle of blue has always proved a fallacious protection, except when it has been made intelligent use of, and been merely regarded as a first line of defence requiring a substantial backing. Putting on one side the overwhelming of Europe by vast successive hordes of Huns, Goths, and Visigoths, and of Russia by the Tartars, which were merely the swamping of the aboriginal inhabitants by greatly superior numbers, and not by force of arms, or at any rate, only in a secondary degree, the majority of the world's great conquests have been effected by over-sea expeditions. Take Continental Europe. Its present political divisions have existed almost ever since there has been a settled society. France has been France ever since the advent of the Carolingians, Germany has always been Germany despite the onslaughts of the disciplined Roman legions, and even in Russia the Tartar domination could not endure. Only such countries as were islands, or the next worst thing to islands, viz., peninsulas, have changed masters permanently, and our own island more than all. By the aid of their ships, Romans, Saxons, Danes, and Normans have in turn possessed themselves of England; the Iberian peninsula has fallen under the yoke of the Moslem from the further shore of the Mediterranean; Sicily, a true island, has been several times subdued; and Italy would have fallen into the hands of the Carthaginians had the latter possessed sufficient energy and perspicacity to maintain their fleet. Greece and Turkey, the other peninsulas, have the same tale to tell. This, then, should suffice to show that the sea of itself is little or no protection, but rather the reverse. Over-sea



expeditions therefore have led to more changes of ownership of a permanent nature than have the marchings of armies across frontiers, whether the latter are arbitrary, or geographically defined. That the German General Staff are confident in the ability of their armies, aided by their growing fleet, to carry out a successful invasion of our islands is well known, and the article in the April number of the *National Review*, written by a member of that body, and entitled: "The Future Functions of the German Navy," proves that such an invasion is not only contemplated, but also arranged for.

It may, of course, be urged that at the time when those bygone invasions took place the inhabitants of the threatened countries were little, if at all, organised for defence, and but little versed in the strategy or the tactics proper to such occasions. That is no doubt true; but it is equally so that neither were the invaders in better case, or their preparations anything but perfunctory, and the moral is, that if they under such conditions in their ill-equipped sailing craft, which were at the mercy of wind and wave, and were in no sense war-ships, but merely transports assembled for the occasion, could effect conquests, how much more certain should be the success of a modern expedition of this sort, carefully elaborated and prepared and backed by all the resources of up-to-date science and knowledge? That is to say, of course, if the threatened Power has neglected to take the necessary countervailing steps and to develop its defences. The truth is, that the dwellers in islands are apt to lull themselves into a state of false security as regards their safety from attack, or at any rate to rely too exclusively on their naval armaments for procuring them that immunity. That appears to be the tendency in Great Britain just now. The assertion, "The fleet is our first and only line of defence," is heard too frequently, and is too freely accepted as being true. Moltke's famous dictum already quoted, uttered in a moment of suspicious expansiveness, the latter portion of which is triumphantly adduced by the optimistic school in support of their argument, while the first portion is conveniently ignored, is taken too literally, and is responsible for much of the prevailing belief as to our invulnerability. Those who study history or make themselves acquainted with the opinions of naval strategists of this and every age will learn that no fleet has ever accomplished much (except, of course, in purely naval combats on its own element) without the backing of an adequate military force. To quote a modern instance of the truth of this axiom: If, when Sir Beauchamp Seymour bombarded the forts of Alexandria in July, 1882, he had had at his disposal a landing party of a size adequate to that of his fleet and of the task in hand, the whole rebellion would almost certainly have entirely collapsed that same night, and we should have been spared a costly, if short, campaign. There is too strong a tendency to believe that, given a powerful fleet adequate to maintaining our maritime supremacy and protecting our commerce, the size and condition of the Army does not matter, and that an ill-organised mass of indifferently-trained men will suffice for all our needs. It is, no doubt, beyond dispute that it would be far better and safer for this kingdom to possess a strong Navy and no Army than no Navy and a large Army; but it is nevertheless not to be gainsaid that under such conditions we should be greatly embarrassed. We might, perhaps, be able to ensure our islands against invasion, and to blockade our enemy's coasts; but, on the other hand, we could undertake no decisive

action calculated to settle the main issue one way or another. Mere pin-pricks, such as the raiding of mercantile ports, the levying of contributions on defenceless towns, and even the bombardment of naval dockyards and arsenals, supposing such to prove feasible, would be of no avail, and these are all that a fleet unassisted by a co-operating army could accomplish. In other words, we should be confined to what amounts to a passive defence—a method of warfare which is generally admitted to be demoralising and doomed to failure in the long run. It would be the case of the whale and the elephant, each in his element defying the other, but incapable of inflicting any injury upon him.

Take the case of the mightiest expedition that ever threatened England with invasion—the Spanish Armada. Why did it fail? Chiefly because of the astounding incompetence and lack of foresight of those who organised (!) it, first in appointing an ignorant layman to command it, and secondly, in composing it of ships which in size and construction were wholly unsuited for the task they had to perform. The bravery and resourcefulness of our admirals and seamen had, of course, much to do with its discomfiture, but the point is, that the fact of our being an island had little or nothing to do with deciding the issue. All the above-mentioned causes of failure were preventible causes, and such as would certainly not characterise any carefully-planned expedition launched against us by an enemy of to-day. Had the Spanish ships not been too huge and unwieldy to manœuvre readily, or to bring their highly-placed guns to bear upon their foe who had the genius to run close alongside where the guns could not be sufficiently depressed to bear upon him, whilst at the same time carefully avoiding boarding tactics and the trying of conclusions with the highly-trained men at arms; had the Spanish captains been true seamen indeed, the Armada might well have succeeded in throwing ashore its hosts and in protecting whatever base they might have selected. The gale which completed the discomfiture of the great fleet did not spring up until days after it had cleared the English Channel. And once landed, what on earth, or rather in England, was there to stop the march of these veteran soldiers of Philip II. Certainly not the knowledge that England is an island. But the fact that our action was limited in this manner would, of course, not be unknown to our opponent, and he, by carefully laying his plans and watching his opportunity, would, sooner or later, succeed in evading our blockading ships and in getting to sea. We are, of course, contemplating the case of a Power whose naval strength is at any rate sufficient to justify him in taking his chances against our fleet. The arguments so well set forth in the naval prize essay of last year, and the course of events at Port Arthur, despite the poor success attending the Russian effort, serves to illustrate the difficulty of bottling up a fleet that is determined to break out, even when conditions, such as the configuration of the land, close contiguity of the blockading ships to their base, and superior *moral* on the part of those manning them, are all on the side of the blockader. A skilful or determined use of torpedo craft on such an occasion renders the escape of the main fleet more than possible. The example of the disaster which befell Admiral Cervera's fleet when it attempted to force its way out of Santiago Harbour during the Spano-American War, can scarcely be regarded as a proof to the contrary, for that was merely a half-hearted endeavour,



and unskilfully planned, if planned at all, whilst the Spanish ships were known to be ill-equipped, and their officers and crews discouraged.

But it may be said that even allowing that the most efficient blockade can be evaded, and the imprisoned fleet, or part of it, succeed in reaching the high seas, of what use will that be to it? How will that bring about the invasion of these islands? Well, we are, as already assumed, dealing with the case of an enemy whose navy is not greatly inferior to our own. Supposing that enemy to be either Germany or France, or the two in alliance, or, as an alternative, Germany and Russia acting in concert. The geographical position alone of these countries with regard to our own islands affords them an immense advantage from the outset. They are near enough to us to be able to know promptly and accurately what is going on on our coasts, and the state of our weather, and therefore, to profit by the temporary absence of our blockading squadrons (for we may assume a blockade of the enemy's ports) through tempests or other causes. But more important than all, they are near enough to make most effective use of their torpedo-boats, destroyers, and submarines against us. Our present Secretary for War has expressed his confidence that owing to our possession of so many craft of this nature, our coasts are rendered secure against invasion; but he seems to forget that other nations possess them also, and are brave and skilful in their use, and that in such a game of hide-and-seek, good fortune may as easily prove to be on the weaker as on the stronger side. It seems quite reasonable, then, to admit the possibility of the blockading ships being driven off their cruising ground by them, and a certain number being put out of action without a single cruiser or battle-ship on the enemy's side having suffered damage, since until the blockade is raised, all the latter may be supposed to be lying securely under the protection of the guns and other defences of fortified harbours. Their destroyers and submarines will be constantly employed in delivering attacks against our blockading ships, and it is to be expected with at any rate a fair amount of success. Such success involving for us the loss of ships, and, worse than ships, of *personnel*, will all help to put the two opposing fleets more upon an equality. Thus, the number of available ships on either side being approximately the same, when the enemy breaks out of his ports on a favourable opportunity, we may take it that we shall require every battle-ship that we can collect in order to bring him to an engagement. Our opponent, aware that the coaling difficulty will only allow him to keep the sea for a limited period, will be anxious to try conclusions as soon as possible, and will therefore be as eager in seeking us out as we shall be in looking for him. We shall thus be under the necessity of entirely raising the blockade and concentrating. Let us further suppose—and this is by no means unreasonable—that as a result of the fight between the two fairly matched fleets our own is worsted and is obliged to seek its ports, there to be in its turn blockaded, temporarily, no doubt, but still for the time blockaded, until it is possible to summon to redress the balance such ships as are engaged in protecting our commerce in distant waters—an operation which would then of course become a secondary consideration. That space of time would in all probability be sufficient for the enemy to put into execution any plan he had formed for the invasion of these islands. We may well believe that if things had come to this pass the state of uneasiness in this country would be very great, and that the



general recognition of the precariousness of our food supply would compel such cruisers and lesser craft as were still available to devote their main energies to protecting our merchant-vessels of all descriptions as they neared our shores from the hostile cruisers and destroyers which would be busily engaged in hunting them. This, too, would tend to favour invasion, and it would appear to be perfectly feasible for an expeditionary force prepared in anticipation—and intelligent anticipation and timely preparation are to be expected from at any rate one of our possible enemies—to take advantage of the temporary command of the seas which its fleet enjoyed to cross the narrow strip of water dividing his coast from ours and to make for some predetermined point of disembarkation. No doubt with our fleet temporarily *hors de combat* we should still have plenty of torpedo craft at command which would be skilfully and boldly handled, and which would frequently get home amongst the enemy's transports, if not against his war-ships; but that would be a small matter in the eyes of a Continental foe disposing of a gigantic army, and would be far outweighed by the moral effect that would be produced by the landing of even a few thousand men on our shores. For the sea trip only a matter of from 30 to 48 hours would be required, and another 12 hours or so for the landing of a considerable force, the latter operation, dependent as it is upon so many chance circumstances, being the least known factor in the problem. Still, with well-disciplined and practised troops, as we may expect these to be, the landing would demand much less time than is generally supposed. The following examples of what has been done in the past by troops who were anything but practised in the work, except, perhaps, those who landed in Egypt in 1801 and in the Crimea in 1854, and who had nothing but the simple appliances of the old sailing days to aid them, will serve to some extent as a basis on which to calculate the time required under present conditions for putting a force ashore:—

Date.	Place.	No. of Troops disembarked.	Nature of Opposition.	Time taken.
1758.	St. Malo.	13,000.	None.	1 day.
1761.	Belleisle.	10,000.	Severe.	1 day.
1762.	Martinique.	12,000.	Severe.	1 day.
1799.	Holland.	17,000.	None.	2 days.
1801.	Egypt.	12,000.	Severe.	1 day.
1807.	Copenhagen.	27,000.	None.	1 day.
1809.	Walcheren.	39,000.	None.	3 days.
1810.	Mauritius.	12,000.	None.	1 day.
1854.	Crimea.	34,000.	None.	4 days.

During the Essex manœuvres last year (1904), a force consisting of an army corps, so-called, but numbering only 11,571 officers and men and 2,701 horses, was put on shore in 12½ hours, so far as the combatant troops were concerned, although 36 hours elapsed before all the horses and wagons were ashore. Here we have an instance of a landing at a previously-selected place on a plan carefully thought out beforehand and with the help of every available appliance. We may expect that in the future, now that this important matter is receiving due attention, disembarkations will be effected much more expeditiously and we may probably count upon a force such as the above being put on

shore in half the time demanded for the purpose on that occasion. And what we are doing in this respect is sure to be copied by any of our possible enemies, especially those who contemplate the contingency of an invasion of these islands, even if they have not already given the matter their attention and worked out to a nicety what can be done in the way of saving time by dint of forethought and of practice. That the performances of the past, which have been adduced above, will be very greatly improved upon we may consider as certain, when we reflect that they were all executed with far less facilities than we enjoy to-day, by troops who, so far as can be ascertained, had had no practice in such work, and in some cases in the face of vigorous opposition. This being admitted, there is no reason whatever why an enemy in temporary command of our waters should not confidently count upon throwing ashore on some selected point on our south or east coast a force of 25,000 to 40,000 men in the course of 12 to 18 hours, and of more than double that number in 36 hours, the work going on day and night, for, with a view to avoiding the losses and disorganisation which, under modern conditions, even a feeble opposition can occasion, troops must certainly learn to disembark at night, just as they have had to learn to march and fight at night. But the sceptic, the optimist, may say: "Where is any possible enemy going to procure the enormous number of suitable vessels wherein to transport this force, and, having collected them, how is he going to ensure their safety during even this short passage, seeing that a large number of our destroyers, if not cruisers, are bound to be able to find opportunities for molesting them, despite the assumed impotence of our main fleet of battle-ships which has been put *hors de combat*?" "And after all is said and done," it will be asked, "what is this force of less than 50,000 men, so large to transport but so comparatively small for anything like a serious invasion, going to effect, even allowing that it finds itself safely set down upon our shores?" The answer to the first question takes the form of another question, viz.: "Would such an immense number of ships be needed as at first sight appears?" Continental Powers are less nice in the calculation of cubic space per head required for troops on transports than we are wont to be, besides which it has to be remembered that there is no question of a sea voyage in the case under consideration, but of a short passage of some 24 or 30 hours, or perhaps considerably less. Under those conditions, transports can be packed in a manner which would not otherwise be feasible, and from 25 to 30 of the big modern freight ships of 3,500 tons and upwards, or an even smaller number of the liners which most of the leading Powers now possess, would amply suffice for the combatant portion of the force we are dealing with. If it be urged that almost any possible enemy would find it difficult to collect even that comparatively small flotilla, it may be pointed out that during a war with us that enemy's merchant fleet would be reduced to a state of idleness, so that almost every ton of it would be available for use for transport purposes, except, of course, such vessels as had been caught napping at the outbreak of hostilities, and had been snapped up by our cruisers on the ocean routes. Besides which, suitable ships are always to be purchased or hired for money, and although of course this could not be done while our fleet was blockading our enemy's coast, or during the short period for which, as we are assuming, the fortune of war had given the latter the command of the sea, we must credit him with foresight, and



must therefore suppose that already, prior to the declaration of hostilities, he will have taken steps to procure the ships which calculation will have shown to be necessary for the purposes of the intended invasion.

If, we are told that, as Great Britain is in possession of four-fifths or so of the merchant shipping of the world, it is to this country the would-be invader must inevitably turn in order to satisfy his requirements, and that therefore patriotism or sentiment would deter our shipowners from satisfying the demand, we must point to recent experiences to prove that the power of the purse rises superior to considerations of this nature. By whose aid was the Russian Baltic Fleet enabled to keep the sea, just subsequently to the memorable occasion when it had ruthlessly shot down British fishermen and sent British craft to the bottom of what was almost their territorial waters, and when the national indignation ran so high that a war between ourselves and Russia seemed almost inevitable? The answer is: British colliers laden with British coal. And are not British ships racing across the Pacific with cargoes consigned to Vladivostok and intended to be landed, if good luck allow it, under the noses and to the detriment of the nation with whom our Government is in almost offensive alliance? And is it not an established fact that when we and the Italians were seeking to subdue the fanatics of Somaliland, no desire for the triumph of the cross over the crescent, or of freedom and enlightenment over tyranny and barbarism served to restrain Britons from furnishing the Mullah and his tribes with the arms and munitions, without which he could not have continued the struggle? No; wherever remunerative charters or freights are offering, the British ship will be forthcoming and owners will always be ready to quiet their consciences with the sophism: "If we didn't do the job somebody else would, and so why should we not pocket the money as well as another?" No doubt, one hundred years ago, or fifty even, it was not so, but unfortunately ideas have changed and we have to take things as we find them, and it is no flight of the imagination to believe that any enemy of ours, having the necessary money or credit, can obtain all he requires in the way of ships and stores for organising an invasion of this country. And as to the effectiveness of such an invasion by 50,000 men! Well, the opinion has been expressed that, at present at any rate, an invasion by 30,000 or 40,000 men would spell for us disaster. Besides, this first force would be the advanced guard merely of another, which the transporting ships would be sent back to fetch.

2. *On the Ability to act Rapidly and to Evade Defending Fleets conferred by Fast-steaming Power, Wireless Telegraphy, and other Modern Means of obtaining Prompt and Accurate Information.*

Even supposing that the enemy's fleet has not now the command of the seas, temporarily or permanently, opportunities may nevertheless offer to him for carrying out an invasion. After all, the sea is wide, the range of human vision limited, and the chances many, and those who are willing to take big risks will often win big stakes. How easy it is for whole fleets, let alone individual ships, to miss each other at sea is very well known, at any rate to sailors. Is it necessary to quote the historical case of Nelson's pursuit of Villeneuve,



and the manner in which, even in the circumscribed area of the Mediterranean, he, resourceful and tenacious seaman as he was, failed so frequently and for so long to track his quarry. Again, in some recent naval manœuvres in our own waters we have opposing squadrons almost passing through and yet failing to sight each other, and that when they were out scouting for the very purpose of getting into touch.

At the commencement of the present Russo-Japanese War a British cruiser, expressly sent to search for two Russian cruisers in the Mozambique Channel, for long failed to find them, and only at last heard casually that they had been at anchor for more than a week in a harbour not 30 miles from the one in which she herself then was. A certain island Colony of ours had reason to fear a visit from *Rojdestvensky's* fleet, and consequently a system of look-out posts was organised, from which the whole of the adjacent sea to the limits of human vision was watched. Nevertheless, during the space of three months not a single war-ship was ever sighted, although steamers arriving often reported having seen such, and indeed exchanged signals with them within a few miles of the coast, and although it is now known with certainty that two Japanese cruisers were really patrolling those seas for some time (*vide* article: "The First Year of the War," in the April number of the *JOURNAL* of the R.U.S.I.), whilst on more than one night officers and others watched the beam of an electric light which was played on to the land from a certain remote harbour during the space of fifteen minutes and more, and which could only have proceeded from a strange ship, since there are no such lights in the island, yet there is no one, no fisherman even, who can come forward and say that a war-ship was in that harbour, let alone indicating whence she came and whither she went.

All this, then, goes to prove the ease with which ships can escape detection; and in the case of a flotilla conveying an invading force and bent, not on clearing its way by first fighting an action, but merely by evading the opposing fleet, it may be expected to arrange to arrive off its rendezvous near our coast during the night, the ships moreover not moving together in one conspicuous mass, but steaming independently to the appointed place. Some of them might be captured, probably would; but troops are plentiful with our potential Continental foes, and the loss of a few battalions would not disturb their equanimity or upset their plans.

Given a war with Germany or France, or the two in combination, who can deny the possibility of an army corps being landed on our south coast within 24 hours of leaving its home ports, and within 36 hours on our east coast, meaning by this latter term the coast anywhere north of London. This east coast, it may be said in passing, is the most advantageous locality for a landing of hostile expeditions, both from the naval and the military point of view.

The greater ease with which information can be obtained nowadays as regards the movements of one's enemy, whether on land or sea, is all in favour of our would-be invader. Germany, for instance, desiring to locate our fleets, would merely have to obtain this information from its agents or sympathisers in any neutral country by requesting them to telegraph the substance of the reports of all movements as they came to hand. In these days of enterprising war correspondents, this sort of information gets through, despite censors, even if it has to be sent round the world by devious routes

to its destination. The British Press itself would probably afford all the information required, for the desire for "copy" and to obtain a reputation for enterprise and smartness, would, as it has always done—and notably in the immediate past—outweigh patriotic considerations, and lead our "dailies" to betray the situation. And of course a resourceful enemy would arrange for the telegraphic despatch to him of a summary of their news. Besides, any Dutch or Belgian fishing-boat would, although nominally neutral, willingly obtain and impart the required information merely by reason of the anti-British sentiments of those peoples, or at any rate in return for substantial rewards.

The multiplication of submarine cables, the difficulty of interfering with the correspondence of ostensible neutrals, who can so easily prearrange codes in which apparently simple expressions mean so much, wireless telegraphy, a higher and more generally diffused knowledge of signalling all go to facilitate the work of the Intelligence Staff and to reveal the whereabouts and movements of an enemy, particularly when that enemy is Great Britain, whose subjects enjoy a dangerous amount of freedom of action, and within whose hospitable limits are many who, though battenning on her wealth, are foreign to the backbone in name and in sympathies, and more than ready to bite the hand which feeds them.

### 3. *The Greater Independence of the Weather enjoyed by the Modern Fleet.*

Neither can we count nowadays upon the assistance of wind and weather as we could of yore. The modern war-ship and the modern transport are both to a great extent independent of such elements, and there is even less difficulty than there was in landing a force from its ships in rough weather, thanks to steam-launches, picquet-boats, and other conveniences. No adverse winds short of a gale can now prevent a fleet from making its objective, and even gales will probably only delay them. It may be urged that this consideration cuts both ways, and that this independence of meteorological conditions would assist us as much, if not more, than it would our opponents. During a blockade of the coast of France, for instance, there need be none of those vexatious withdrawals to Torbay on signs of an approaching sou'-wester, such as interrupted the operations of Hawke (although on a certain memorable occasion a gale of this sort afforded that daring and skilful admiral his opportunity) and those who came after him. The lee shore has lost much of its dangers, whilst an off-shore blow cannot ordinarily drive ships from their cruising ground. Well, whether it has or has not been proved that a modern fleet can maintain a blockade for a lengthened period in heavy weather, it is certainly a fact that under such conditions its consumption of coal will be abnormally great, and that it will therefore be compelled to coal much more frequently, for which purpose it must withdraw to its ports either as a whole or in detachments, since at these times coaling at sea will become impracticable. If a blockaded squadron chooses such a time for attempting to break out, it will have the following advantages in its favour, viz.:—

1. It will put to sea in the best possible trim, whilst its opponent will certainly not be in better condition, either for fighting or for pursuing.



2. Being the closer in shore, the home fleet will have the advantage of the smoother water (no small consideration with ships of low free-board and limited handiness), and will therefore be able to fight its guns with better effect than the blockading fleet, if it comes to fighting its way out.

4. *The Levelling up of the Fleets of other Powers as regards the Number and Power of Ships, and the Quality and Quantity of their Personnel, by reason of the Changes in the mode of Conducting Naval Warfare.*

There are those no doubt—and no small section, either—who will urge that as all this argument as to the possibility of an invasion of England hinges upon the hypothesis that the enemy possesses a fleet of a strength approximating to that of our own, and that certain alliances take place, and that as there is little or no prospect of either of these conditions being realised, at any rate, for a long time to come, it resolves itself into a purely academical discussion outside the range of practical considerations. But is this really so? Granted that our Navy is at present strong enough as regards the number and efficiency of its ships, at any rate, to prove more than a match for any combination that could be formed against us, is that ratio of strength likely to be maintained even in the near future? Are there or are there not Powers which, looking ahead on a settled policy, are making, and intend to continue making, every sacrifice necessary for the building up of Navies which before very many years have elapsed will be able to cope with ours, either single handed or with the aid of allies. Read the preamble to the German Navy Bill of so long ago as 1900, which lays down in plain terms that:—

“Germany must have a fleet of such strength that a war, *even against the mightiest naval Power*, would threaten the supremacy of that Power.”

And what is to prevent such Powers from watching their opportunity and taking advantage of our embarrassments, which are the penalty of world-wide Empire, and attacking us when the propitious moment presents itself? Does any Briton, not blinded with that insular vanity which leads the nation to believe itself to be under the special protection of Providence, and therefore privileged to take risks which less favoured nations would not dare to run, really believe that had such fleets existed a few years ago, when our hands were more than full in South Africa, we should have escaped invasion then? And being invaded, how should we have met the crisis? And can we say that similar situations will not arise again when those other Navies are more on a par with our own? It may be at once conceded that we can build and fit our ships much more rapidly and can afford them on a far larger scale than any of our possible rivals; but ships and *matériel* are not everything. You require crews, and adequately trained, competent crews, including officers, to man them. In this respect our Navy is wholly lacking, and that lack constitutes its greatest danger. The present available reserve, including every category—the best and the worst—numbers only 22,500 seamen and 2,500 stokers; 2,500! not a stand-by of 30 each for the number of battle-ships which would be in commission, and ill-trained men at that,



whereas, in the opinion of one distinguished admiral at any rate, in a war with France alone and at her present strength we should require a reserve of at least 250,000 men. If this be correct, as many experts appear to consider it is, can we say that we are in a fit state of preparation for war with any first-class Power? And if we are not fit, what is going to protect us from invasion? who could be bold enough to say that we are not liable to, or, indeed, inviting it?

Then, again, the power for harm of a single torpedo-boat or submarine, given good luck and a dashing crew, has done very much to level up inferior Navies and to render them formidable rivals to even the leading naval Powers, so that it is by no means a foregone conclusion that success will be on the side of the mightiest or most numerous fleets.

There are those again who pin their faith in what are termed practical politics, and who would scout the possibility of such alliances against us as have been suggested above; but are not the teachings of modern history in favour of such combinations? These are the days of quick political changes and sudden alliances, when sentiment and loyalty to ancient friends and ideals are at a discount. There are few, if any, nations which would not rejoice to attack and humble us if they saw the chance and thought us weak. Therefore, strength and readiness to meet any possible combination is our best safeguard. We talk to-day of our "cousins across the water," as though they were bound to us by indissoluble ties of blood and sentiment; but it is less than 20 years since we were within an ace of war with these good cousins, and even now there are questions between us awaiting settlement which might well lead to hostilities, particularly in view of the evident determination of the States to make their influence felt everywhere. We enthuse at present over the *entente cordiale*; but does any serious man who knows aught of French nature believe that our next-door neighbours, especially that section of them which sways Ministries and therefore decides the country's destinies, can or will forget or forgive Fashoda any more than they forget or forgive Elsass, or imagine that in their heart of hearts they like us? Germany, animated by that most powerful of motives, trade rivalry, is ready to join hands with anybody against us, and Russia, the defeated, who surely can never pardon our unfriendly attitude towards her during her present misfortunes, has already learnt the lesson of her war even before that war is terminated, and intends to stop at nothing to build up a mighty Navy in the near future.

Japan, who owes all to naval supremacy, will undoubtedly do the same. And even now, when these two nations are at each other's throats, and they are piling up hecatombs of each other's dead, there is talk of an alliance between them directly peace is concluded, the project forming the subject of serious deliberations among an influential party in Tokio and the imprisoned Russian officers in their midst. No! no combination, no alliance is too impossible for contemplation nowadays; no blood is thicker than water, and no tradition too sacred to be broken down. Let us then be practical; look facts boldly in the face, and instead of hiding our heads ostrich-like in the sand and crying: "There is no danger," admit the possibility of a serious invasion of this kingdom by a force of at least 50,000 men in the first instance, with the probability of its rapid reinforcement by a similar number. It is upon that possibility that the following calculation of our requirements is based.

If the soundness of the foregoing argument be admitted, is there anything chimerical in supposing that a situation such as the following might arise: War between ourselves, and Germany and France in alliance? Our Channel and Atlantic Fleets blockading in various ports the French and German fleets, which have not succeeded so far in concentrating and in putting to sea. The Mediterranean Fleet is fully occupied in blockading Toulon, and its cruisers and smaller craft in protecting the trade route through that sea, and in conveying our shipping. The special cruiser squadrons attached to the Atlantic and Channel Fleets will be engaged in similar police work in the Atlantic, and may also have to assist the Eastern Group in guarding the route from South Africa to India and China, and in patrolling the East African coast. Persistent bad weather prevents our Channel and Atlantic Fleets from maintaining an efficient blockade or from coaling at sea, whilst their numbers, which, even with the addition of ships from the Reserve—this addition, however, being far smaller than it should have been, not through lack of ships but of the *personnel*, especially stokers, required to man them—are barely sufficient for the task in hand, have been somewhat reduced by the successful attacks of the enemy's smaller craft. Some of the latter, in disregard of all law and right and of the protests of the lesser Powers not too strongly urged, have made use of Dutch and Belgian ports as bases for these attacks.

Some *three* weeks after the establishment of the blockade, when bunkers are depleted and some of our ships are necessarily absent in order to coal, a French squadron of several battle-ships and half-a-dozen cruisers, convoying transports, swift and of equal steaming powers, containing 10,000 troops breaks out from *Brest* or *Lorient* and makes for *Donegal*, the ships separating for the passage, but being given a rendezvous off the latter port at a certain date and hour. All the transports are in charge of officers of the French War Navy, who know what to do and can be relied on. Our scouting cruisers report the departure of the ships and the fact that they appear to be steaming westward, and one of them hangs on to what seems at first to be the nucleus of the hostile force. Darkness, however, sets in, the French ships having sailed at sunset, and she loses sight of them. By good luck she stumbles upon one of the French transports, having 2 battalions of infantry on board, and captures her. The French ships, steering due west, but independently, until they are on a meridian sufficiently to the west of *Ireland*, then alter course and make direct for their rendezvous, meeting with none of our cruisers by the way. One battle-ship, however, falls in with a large British liner making for *Queenstown* from *New York*, and takes possession of her. Putting a small prize crew on board, she sends the liner ostensibly on her way with orders to make the south coast of *Ireland* and to signal that she has seen a French squadron to the south steering for *St. George's Channel*, the number of ships composing it being of course exaggerated. This is done, and the report puts the ships which have now assembled to look for the French squadron and to destroy it, on a false scent. At the end of the third day after sailing, the ships of the latter and the transports make the appointed rendezvous just out of sight of land, and after lying off during the night, enter the harbour at daylight. Before sunset the troops, with their stores and transport, are all landed and are marching on *Londonderry*. There is no need to follow their movements in detail. Military men



acquainted with the nature of the country, the distribution of our troops in Ireland, and their facilities for concentration, and the disposition of the inhabitants, as well as with the principles of warfare, will be able to gauge the chances of this force being able to hold its own for a time. The fact of its landing will, of course, be promptly known, and indeed there would be no desire for concealment, the object being to create a diversion and to lure at least a portion of the British fleet to the remote coast of Ireland during the first movements of uncertainty, as well as preventing the movement of a single soldier from that island to take part in more important operations elsewhere. Indeed, if the French flotilla were either strong enough to fight or swift enough to be able to evade any hostile fleet despatched against it, its purpose would be best served, not by putting its troops on shore, but by hovering about the coast and leaving it uncertain upon what part the descent was to be made. On the day subsequent to the sailing from its home port or ports of the French expedition, the remainder of the French and the whole of the German fleet have taken advantage of the temporary weakening of the blockade through the necessity of detaching a sufficient squadron to deal with the unknown quantity now at large, and have tried conclusions with our ships. Being in the majority they have been successful, and have gained what they wanted—temporary command of the North Sea and of the English Channel. The fleet of transports, on board of which are the troops of the main invading force, puts to sea, making for the Lincolnshire coast, say Grimsby, their time of sailing being so arranged as to ensure their reaching their objective at about the same time as the Irish expedition makes its appearance at Donegal.

Again it is asked: Who, knowing the difficulties and delays attaching to the calling out and mobilising of the heterogeneous forces upon which Great Britain relies for her defence, is prepared to deny the possibility of this invading force effecting its landing unmolested and marching upon our great centres of industry, taking hostages by the way for the security of their communications, and the obtaining of supplies, before anything in the shape of an organised resistance in force could be offered. Directing their march towards Liverpool they would possess themselves of the main lines of railway, and the trunk roads *en route*, thus severing North from South, and obtaining for themselves the advantage of the interior position.

Time being the all-important factor in this critical situation, the German and French transports would, no doubt, hasten back directly they were clear, to bring across more troops. It is not to be expected that the invaders would carry out their plans scathless. Some of their transports, if not of their war-ships, would be captured or destroyed, and although of the latter, few, if any, could be spared, they could regard the loss of a few thousand troops with equanimity in view of the extent of their resources in men, and the important ends they were seeking to attain. And neither, on the other hand, would their ships be idle. The success of their fleet would encourage their cruisers and small craft to greater enterprise, so that these might be expected to take full advantage of their temporary preponderance to harass British merchant shipping. With a hostile force in their midst, and their food supply thus endangered, the condition of the inhabitants of these islands would be one of great anxiety, if not of real peril. In such a case it is to be expected that England would call in her outlying fleets, to meet the more vital and pressing peril at home,



leaving her world-wide interests to take care of themselves and her distant possessions to stand or fall by the result of the operations at the Empire's hub. But it is very possible that before these accessions of strength could reach our shores and redress the balance of sea power, the main issue would have been decided and the Government driven by the famished and impoverished mob to make terms. It must be noted, too, that in the foregoing appreciations, the two Powers in alliance against us have been put in the most disadvantageous position that they could well occupy. They have been represented as having allowed their fleets to be caught napping and to be blockaded in their own ports, whereas in reality it is to be expected, since they must be credited with the possession of as sound ideas as ourselves as to the true principles on which fleets should be employed, that this would certainly not happen, but that their fleets would, at the outbreak of hostilities, be on the high seas and have made their arrangements for enabling them to remain there. In that case their position would be considerably stronger and ours less so in an equal degree. The paralysing effect of the feeling that an enemy's fleet is free to act, and is bent upon carrying out, we know not what plans, is very great even to a Power which has the superior naval force. As proofs of this may be recalled the anxiety felt by the United States at the time when the Spanish fleet, during the war of 1898, kept the seas, and the undisguised relief expressed by all when Cervera was ill-advised enough to bottle himself up in a land-locked harbour. Or still more recently, we have noted the embarrassment caused to the victorious Japanese fleet by the existence of the numerically insignificant Russian naval force in Vladivostok, and the fear of unexpected action on its part. And until recently, the existence of Rojdestvensky's fleet, even when nowhere within striking distance, restricted Togo's action and forbade too great a show of audacity in home waters, since any serious crippling of his ships would have brought his adversary to the spot.

## PART II.

*An Analysis of the Present Condition of the Regular Army on Home Service, and of its ability to deal with the Situations referred to in Part I.; with Suggestions as to Changes in its Organisation which appear desirable.*

The Regular troops in the United Kingdom are organised into :—  
4 cavalry brigades and 9 infantry divisions.

Of these, 2 cavalry brigades and 3 infantry divisions are stationed in Ireland; 3 of the infantry divisions in Great Britain are organised into an army corps and are distributed with a view to their rapid concentration at the headquarters of the corps, viz., Aldershot.

The actual detail of fighting units on home service is :—

	In	In
	Gt. Britain.	Ireland.
Battalions of Infantry - - - -	61	24
Regiments of Cavalry - - - -	12	6
Batteries of Horse Artillery - - -	13	2
Batteries of Field Artillery - - -	75	18
Companies of Garrison Artillery -	41	3

With more than sufficient departmental troops to complete the organisation.

Behind the Regular Army stands:—

*a.* The Army Reserve, numbering 77,405.

*b.* The Militia Reserve, numbering 7,299.

No account has been taken of the men of the various infantry, cavalry, and artillery depôts, as this would be misleading, consisting almost entirely as they do of untrained recruits and the limited staffs necessary for instructing them. Besides, the requirements of the Army abroad are not going to grow less because we are at war. On the contrary, bearing in mind the necessity of maintaining the units in India, if nowhere else, at their full strength at such a time, they are likely to increase, so that the batches of trained recruits at the depôts will have to be despatched abroad by some means or another directly they become available, for it is not to be supposed that at such a crisis we shall deplete our home battalions for the purpose of completing those on foreign service. That the marine artillery or infantry could not spare a single man for land service is certain. Having regard to the lack of an adequate reserve for the Navy, this valuable body of men will have to be utilised to the last recruit for naval purposes.

As regards *a*, the Army Reserve, judging by the strength at which it has been decided to maintain infantry battalions at home, it is within the mark to say that one-half of this reserve will be used up at once on the outbreak of hostilities to complete units to war establishment and to replace inefficient. The remainder will speedily disappear after providing for the units on foreign service and for making good casualties after the first serious engagements. Just at present, when the men enlisted for 3 years with the colours are beginning to pass into the Reserve, the latter will increase considerably in numbers, but this will be at the expense of quality, for in a voluntary Army like ours we cannot make much of a soldier out of such material as offers in so short a space of time. Moreover, a few years hence and we shall begin to feel the effect of the present 9 years' men, and the strength of the Reserve will then once more decrease. It is just a game of Peter and Paul over again.

As to *b*, the Militia Reserve. This consists of a mere 7,000 men, a large percentage of whom, it is safe to say, would not be forthcoming when wanted, and would not be a valuable addition to the Army anyhow. From neither of these two sources, then, could be drawn men for the purpose of forming fresh units. Under our present organisation the demands of even a small war abroad, or the necessity of reinforcing India in the event of Russia's menacing the North-West Frontier, would so denude the United Kingdom of Regular troops as to leave it without a field force capable of meeting an invasion of even 30,000 men, after allowing for the Irish garrison, which must be maintained, and those of the defended ports. The further test, as convincing as it is conclusive, of our existing system is shortly supplied by the only possible answer which any unbiassed man must return to the plain question: "In the absence of our Regular Army on foreign service, were this country invaded by 50,000 men, would you rely without misgiving upon our Auxiliary Forces to repel them?"

The first requisite in a crisis such as that with which we are dealing is an adequate force prepared to go anywhere within the



kingdom at very short notice and to get there in the shortest possible time. To meet these requirements it must be:—

- a. Very mobile and always concentrated.
- b. Well organised.
- c. Well trained and exercised.
- d. Physically fit.

Such a force we possess to a certain extent in the army corps to be maintained at Aldershot, an army corps which, be it remarked, is 4 battalions, or a whole brigade, short of the infantry required to complete its establishment, this brigade having to be made up from the garrison of Portsmouth and the Isle of Wight. It has also to be borne in mind that that army corps is mainly intended for offensive purposes beyond the seas, and that therefore if we employ it in meeting an invasion it will no longer be available for the offensive abroad, and there will be nothing to replace it, and that at a time when we may find it absolutely necessary to have recourse to the offensive-defensive in one or another of our distant possessions. It is all very well to say that the main issue must be decided at the hub of the Empire, and that the outlying portions—the limbs—must stand or fall by our success or failure there; but politicians and Colonial communities are not students of the art of war, and will not understand this, and it is very certain that if India, Canada, the Cape, or Australia found themselves invaded or raided by any Power with which we were at war, they would call upon us for assistance, and if it were not forthcoming a state of public opinion would arise which would threaten the integrity of the Empire. Besides, as has been already hinted, this army corps is too small for the purpose in view, even allowing that it fulfils the conditions enunciated above, which, unfortunately, there is reason to doubt, at any rate so far as *b* and *d* are concerned.

The modified *army corps* at Aldershot would be able to effect but little against the 50,000 highly-trained Continental troops with whom we assume it to have to deal, unless of course it had the good fortune to be able to catch them in the act of landing or before their advance had been organised, when no doubt modern conditions of war would be greatly in their favour. It is not, however, to be supposed that an invader would attempt to land in the face of even a greatly inferior defending force, well posted and ready to receive him, but he would haul off and make his attempt elsewhere, and there is every reason to expect that he would ultimately succeed in effecting a surprise landing, always, of course, assuming that he retains temporary command of the sea.

The task of the Regular field force, then, will be to meet the invader in the field under more or less equal conditions. To do so with any reasonable prospect of success it is manifest that its present strength is totally inadequate, and must be trebled.

As already said, the first requisite in such a force with such a problem before it is extreme mobility. An invader must be confronted at the very earliest possible moment, for every minute's breathing space afforded him is of immense service to him. He must be fallen upon and harassed before he has time to establish himself or to organise his base, his communications and his advance, and collect supplementary supplies and means of transport. Our field force must therefore be prepared to confront him promptly and



be able to hang persistently on to him. Well, the force which will be the best able to fulfil these requirements will be one which has been carefully organised beforehand, which is fully equipped in all respects, especially as regards its transport, has been constantly practised in combined movements from place to place, and the Staff and units in working together. This means that the force must be in existence beforehand, and not merely be improvised or built up round a nucleus when the crisis comes. The sudden bringing together of the larger units, such as divisions and brigades, from various parts of the Kingdom and then expecting them to prove mobile and to readily co-operate, will not do, for it is impractical and opposed to common-sense. Besides, we cannot leave the rest of the Kingdom without similar organised bodies of troops, for who can say that a secondary landing will not be attempted elsewhere and become a primary one if it is encouraged to do so by lack of opposition? Granted the possibility of such an invasion as is here assumed, an adequate force must be maintained *at all times* capable of being hurled against the invader directly and wherever he appears. This means not only that horse and foot must be physically fit and practised in marching, but that transport and feeding arrangements must be perfected, and that those who will be responsible for them must always be in their places and ready to act.

With our system of voluntary service and territorial dislocation due to so many inevitable causes, there is no question with us, as there is with the more favoured Continental Powers, of calling out the Reserves in any threatened area and finding them ready organised and efficient for action within it. Under such circumstances our Reservists would be a mere disconnected mass of men without officers, not knowing to whom to look for instructions, and even lacking arms until such time as they had obtained them from their *depôt*, which might very likely be at the other end of the Kingdom. The best we can hope for is this more or less centrally situated striking force held ready to meet emergencies and to act swiftly and effectively in any direction. Unfortunately the conditions prevailing in a densely-populated and over-civilised country such as England, and the industrial distribution of the inhabitants, fetters us to the south for our choice of a location and a training ground for anything in the shape of a large standing force, unless we go to the extreme north, which, however, strategical considerations alone, not to speak of others, forbids. Thus our striking field force cannot be placed in the most effective position for meeting a descent upon our east coast, which, bearing in mind who are the Powers who are the most likely to attempt to invade us, is as probable a place as any. It is therefore all the more necessary that its mobility should be of the highest order. Indeed, it ought in every respect to consist of the most efficient and physically fit officers and soldiers in the Kingdom, obtained for the purpose by selection from the whole of the Regular Army at home. There is no room for weaklings or "physical equivalents" in it, or for jail birds and the like, who will probably be non-effective when they are wanted, and at any rate not up to the standard of efficiency. The ranks must be kept filled, and no skeleton units allowed to introduce a factor of danger and uncertainty into the problem of what the field force is or is not capable of doing. It is a question whether the men of this force ought not to receive some advantages in the way of pay and privileges—at any rate, in war time—over their comrades employed

in the less onerous work of garrisoning defended ports and strategic points.

There must be no system of relieving units in it by other units on their return from abroad with depleted ranks, and often from stations where the conditions of service have militated against the officers and men obtaining due instruction and practice. This is an argument in favour of the establishment of a Home Service Standing Army independent of the remainder; but it would be a Home Army to which it would be a distinction to belong rather than a reproach such as would attach to membership of such a home organisation as appears to be intended. The units abroad must of course be relieved from time to time, but let this be effected without detriment to our striking force, which is equivalent to saying that the relieved unit must be completed to full strength the moment it returns home.

The minimum of strength for this home force, consistent with its ability to meet an invasion by 50,000 to 100,000 men is 8 divisions of infantry at the least, with 2 cavalry brigades. It must be remembered that our enemy's troops will probably be picked men—picked men from a conscript Army in which the standard of intelligence will certainly and of efficiency will probably be far higher than our own. They will therefore be better than ourselves, man for man, and we must consequently endeavour to counter-balance that superiority as far as possible by dint of numbers.

We have seen that there are in Great Britain 6 complete infantry divisions, or will be when the withdrawal of certain battalions from foreign stations have been carried out, *i.e.*, two less than our minimum requirements. There are 3 more in Ireland, certainly, but they are tied to that island, and there is no likelihood of our being able, in the event of a war, to withdraw from thence a single gun, horse, or battalion. On the contrary, if engaged in hostilities against certain Powers we should probably have to reinforce them, especially in the face of the situation which has been sketched above, when Ireland would have an invasion of her own—on a small scale, perhaps, but probably rendered formidable by the sympathy, passive if not expressed, of some of the inhabitants. Are we, then, to raise fresh units to supply the deficiency? The answer is that, apart from the expense, we cannot obtain a sufficiency of recruits to maintain the units we already possess. In short, the Regular Army cannot be expanded in order to make up the two divisions. We are therefore forced to turn to the Auxiliary Forces and to enquire whether they are capable of furnishing them.

### PART III.

*An Analysis of the Present Condition of the Auxiliary Forces and of their Ability to Assist the Regular Army; with Suggestions as to Changes which should be effected in their Organisation and Training in order to better fit them for this purpose.*

The Auxiliary Forces comprise the following organisations:—

1. The Militia, consisting of:—

124 Battalions of Infantry.

3 Batteries of Field Artillery.

32 Companies of Garrison Artillery.

The Militia lacks the departmental troops necessary for its organisation into the higher units on the model of the Regular Army.

2. The Yeomanry Cavalry, with a strength on the 1st January of:—

56 Regiments, numbering 27,638 of all ranks.

3. The Volunteers, with a strength on the 1st January of:—

Infantry, 183,474.

Artillery, 40,673.

Engineers, 17,667.

There are in addition departmental troops of various descriptions, and there is an imperfect brigade organisation, but these brigades vary considerably in the number and size of the battalions composing them. The strength of the battalions also varies from 348 to 2,096, and their organisation from 4 companies to 16.

#### COMMENCING WITH THE SENIOR SERVICE—THE MILITIA.

##### 1. *The Militia.*

As is generally known, the whole population of the country is liable for service in the Militia, subject to the chances of the ballot. In practice, however, it has long become customary to maintain the force on the voluntary principle, even at the cost of allowing it to fall very much below its establishment. The enforcement of the ballot has been advocated of recent years in certain quarters, but there has, generally speaking, been made manifest a disinclination to adopt that course, partly out of deference to public opinion, which is strongly opposed to even that mild form of compulsion, and partly owing to doubts whether the force is sufficiently valuable or necessary to make it worth while. The average Briton is loud in his advocacy of "the old Constitutional Force," but the very last thing he wishes to do is to serve in it. In many respects he is not to blame for this attitude, for no one who is enthusiastic over soldiering for its own sake could possibly desire to serve in a force in which he has no opportunities for learning and none to instruct him. Neither are there any material advantages to tempt the industrious man steadily pursuing his calling and who cannot afford to have his life's work interrupted for a month at a time. The result is that the Militia is almost wholly in the hands of the lowest stratum of society—of men who are either too lazy to work or too lacking in worth and in intelligence to obtain it. Exception must be made in the case of some few battalions, but it cannot be denied that, generally speaking, the force is made up of the riff-raff and the failures of society, and to whom, accustomed as they are to loaf and to starve all the rest of the year, the comparative plenty and the few shillings offered in exchange for a month's outing during the summer are a sufficient inducement to come forward. True, they have to put in a little work and to submit to a certain amount of irksome restraint during that month; but the *quid pro quo* in the shape of pay, bounty, food, and clothing is sufficient to make it worth their while.

This state of affairs did well enough even 20 years ago, but it is entirely out of date now. Just as it is absolutely essential that the



average shooting of a battalion should be good, so is it imperative that its general level of intelligence should be high, or at least equal to that of the enemy it may be expected to have to meet. The machine-made soldier, working like an automaton at the sound of unintelligible words of command jerked out by something or anything *called an officer* are past. We no longer gauge the excellence of a unit by its ability to march past like a wall, or by the brightness of its buttons. In modern warfare, when individual intelligence has to be pitted against individual intelligence, and when our whole system of training is directed towards teaching every man to think and to act for himself, we cannot regard a force as satisfactory which is but little able to benefit by such training or to develop thinking powers. But even allowing that the average Militiaman is capable of improvement, and that he could be made an efficient soldier in the modern acceptance of the term, given time and opportunities, who is there to perform the task? Certainly not his own officers. They are as lacking in all the knowledge, the experience, and the qualities requisite in the officer of to-day as are their men in those required in the rank and file. The corps of Militia officers is made up of two categories: Of the *bona-fide* Militia officer, whose connection with the force is permanent, and of the youth, who merely regards the position as a stepping-stone to higher things. Now it cannot for a moment be contended that the men of the former class are in the force with any idea of putting in hard work or study, or of themselves learning what soldiering really is, let alone spending irksome hours in imparting the results of their own study to their subordinates. So entirely is this the case that even yet the average Militia officer fails to see the broad line of demarkation separating him from the professional officer of the Regular Army, who is constantly studying and constantly being tested technically, physically, morally, and even financially, but claims an equality of treatment, and because he does not *always* get it complains of "studied neglect." Men belonging to this category merely regard the Militia regiment to which they belong as a club, which affords them opportunities for enjoyment and for hobnobbing with friends, and nothing more. They undergo certain perfunctory rule of thumb examinations for promotion, and some of them go through certain courses, during which they have neither time nor inclination to gain anything more than superficial knowledge. Many of them are merely in the force from purely social considerations. All these men, whatever their motives for being in the force, are of course ready and keen enough to come forward in time of war and to serve to the best of their ability, but to prepare themselves for doing so during peace time they absolutely decline. Others, again, are men who have repeatedly failed to pass into the Army, and who hang on to the Militia because they are really keen on soldiering and wish to get as much of it as they can. Unfortunately as a rule their lack of intelligence renders them valueless. But the average youth joins the Militia because even now, despite the severity of the tests and of the competition, it affords him facilities for passing into the Army more quickly and more cheaply than through other channels. The best men succeed in passing and are thus lost to the force, while of those who fail, the majority resign and try some other walk of life, only a small percentage who can afford to do so remaining on permanently; and on these there weighs the sense of failure which adversely affects their potential usefulness throughout their life.

And in addition to lack of quality, there is also a lack of numbers among the subalterns and captains especially, varying from 10 or 15 per cent. up to as much as 60 or 70 per cent. in some battalions. How can such a corps of officers, then, be competent to train men—even keen and intelligent men anxious to learn—in the art of modern war, even supposing they had the opportunities, which, however, they have not? Of what does the Militiaman's training consist? He commences as a recruit with some two months at the depôt of the territorial regiment, the time being devoted to acquiring the rudiments of drill under the supervision of officers who feel no interest in him and who know very little more than he does himself. Then he returns to civil life until such time as the annual training of his battalion commences. A month of slurring now ensues, during which he is rushed through many things, including a course of musketry, the latter especially being always hurried because it is irksome and tedious to all ranks and spoils the officers' afternoons. An average of a few hours' work is performed daily, so far as inspections, sports, and other attractions do not interrupt, and is barely sufficient to recall the smattering of knowledge gained as a recruit, let alone to ground him in even squad or company drill. Officers who are sadly in need of being lectured to themselves make a pretence of lecturing to their men. Or, worse still, a man's unit is taken during a considerable portion of its training for the manœuvres, and in that case he spends his time in what appear to his undeveloped mind meaningless tramps along dreary roads or in carrying out unreal operations under impossible section and company leaders. That a force of this kind can be seriously regarded by either Ministries or the general public is astonishing, especially when Ministers and public are constantly insisting upon the necessity for incessant training on practical lines for both officers and men of the Regular Forces, who certainly can boast of a higher general level of intelligence than the Militia, and should therefore require less training. The apologists for the Militia will no doubt say: "Yes, but then we do not expect so much of the Militia as we do of the Regulars." But this is tantamount, then, to confessing that they are not fit for the work for which they are mainly intended, viz., the defence of the Kingdom, for in order to be so they must emphatically be as good as the Regulars, and we must expect as much of them as we do of the latter. In this connection it is necessary to ask what sort of an enemy they will have to encounter under such circumstances. It is idle to deny that the average intelligence of the conscript Armies of the Continent—Russia excepted—stands on a much higher plane than that of our Regular Army, let alone of the Militia. They are made up of every class of society, and there are more than enough men of intelligence and education to give tone to the whole and to dominate it as brain always dominates mere matter. Their training is thorough, and the stake in their country which they possess is such as to make it a far more desirable, if not a necessary, object to bring a war to a successful conclusion than it is to the great body of men of whom our Militia is composed. It is all very well to talk of the oppressive weight of Continental armaments and the discontent of the people in consequence, but that discontent is not found among the thinking, reasoning classes who recognise the necessity of such armaments, and who certainly have not shown themselves lacking in patriotism or zeal when the test came. The only apparent exception was in the



case of the Austro-Prussian War of 1866, when the Prussian Army showed itself far superior in intelligence and in determination and far more efficient, man for man, than did the Austrian. That, however, in reality supports the argument set forth here, for the Austrian Army had then degenerated into a force much akin to our Militia, as the permission to provide substitutes had been very largely taken advantage of, with the result that the ranks were chiefly composed of the lowest classes of the population, who became food for powder because they were good for nothing else. There is no doubt either that the same cause had much to do with the inferiority of the French to their antagonists at the outset of the war of 1870-71; but no more striking illustration of the superiority of mind over matter, of a sense of responsibility over perfunctoriness, could be offered than the struggle now proceeding in Manchuria. There intelligence, combined with perfect training, are proving irresistible against the by no means despicable traditions of centuries, the two together engendering a confidence not to be withstood. And why should we expect a better fate; why should we suppose that we are capable of encountering the intelligent and highly-trained troops of, say, Germany or France with a Militia that is certainly but little superior, if at all, to the Russian Army as represented in the East, in the matter of brain power, and very inferior to it in the matter of its training?

The recent war against the Boers has unhappily strengthened the mischievous impression so prevalent in this country, that any Englishman with a musket will do to fight against the professional soldier of any other country, the fact being entirely lost sight of that the Boer was no soldier at all, but merely a good shot, innocent of all tactical skill, but possessing a certain shrewd sense, who knew how to use his rifle to advantage in the particular kind of country to which he was accustomed from birth, but who would have been of little use elsewhere. And even so, we required a force of 6 to 1 to overcome him, if the numbers of the combatants on either side have been correctly stated. We shall certainly therefore require far greater odds in our favour to deal with a highly intelligent, highly-trained, well-organised and equipped antagonist, such as a force which felt equal to the invasion of these islands would represent. Can we, then, in any way regard the existing Militia force as equal to the task of supplying the battalions we require to make up our field force? The answer is, emphatically, "No!" and it is as unpatriotic as it is stupid to try to deceive ourselves into believing that we can do so.

Even if the force could boast of competent officers, something might be made of it, though it is to be feared that even so the material is too unsatisfactory to justify our hoping for much under the present conditions. The real remedy is to abolish the force entirely as it stands, regardless of sentiment, vested interests, and possible loss of votes at political elections, and to substitute for it something which we can draw upon to complete our field army and to furnish, in addition, an efficient second line which can really be regarded by experts as competent to meet an invader in the field. Adopt, in the case of the Militia, the course which the country is being asked to approve in the case of the Volunteers, viz., reduce the numbers to what are really required and apply the money saved to thoroughly organising, training, and equipping the remainder. Only effect the reduction in a rational manner, not merely cutting down numbers and leaving as many units in existence as there are now, out of



deference to disappointed colonels or would-be colonels and other wire-pullers, but sweep useless and superfluous battalions and batteries out of existence. If it pleases sentiment and salves wounded feelings, continue to call your regenerated force the Militia, for the name does not matter so long as it ceases to be a Militia in reality, and becomes what we know it ought to become: a section of the Regular Army and the equal of the latter in all respects as a fighting machine.

The Army Estimates for 1905-6 show that 184 battalions of Militia infantry are to be provided for; but as is pointed out in the Secretary of State's accompanying memorandum, the condition of the force is unsatisfactory, that of some of the units being described as "very grave." There is also "great variety in the numbers and quality of the units." Under these circumstances it seems incredible that a practical business people, such as we pride ourselves on being, should feel any desire to maintain the force, expensive as it is. For offensive and defensive purposes the money expended on it is almost entirely thrown away. No unprejudiced man—certainly no expert—can regard the force as aught but a dangerous encumbrance; dangerous because apt to deceive the uninitiated merely by its being included in the Army List, and an encumbrance because it cannot be seriously taken into consideration by the General Staff when drawing up their plans for military operations.

We have seen that in order to complete our field or striking force we require from the Militia, or some other source, 16 battalions. We have further assumed that, failing conscription, there can be no question of this country attempting to take the offensive on land with respect to any possible Continental enemy, or forestalling invasion by invasion. Where a first-class Power is concerned we are tied to the defensive, and it is only for the purpose of reinforcing India or of dealing with savage or semi-civilised enemies that we shall dream of sending expeditionary forces of modest dimensions across the sea. For that purpose we shall require anything from 1 to, say, 4 of the divisions included in our field force.

To replace these during their absence we should be ready with other 4 divisions, and if these are to be drawn from the Militia, that force must give us another 38 battalions. We thus ask from the Militia a total of 48 battalions. The strength of the Militia infantry on the 1st January last was 70,135, or, say, 70 battalions; but that does not matter, for it is suggested that the only really satisfactory method of maintaining the Militia and of ensuring its efficiency at whatever strength is fixed upon, should be adopted, viz., the enforcement of the ballot. Reduce the force to a strength of 50 battalions, detach these completely from the territorial regiments, and locate them in the more populous *country* or small town districts; then enforce the ballot without fear, favour, or affection; by this means levelling up the standard of intelligence to a considerably higher plane than that of the Regular Army, and thereby rendering it possible to make of the Militia an efficient fighting force with less training and practice than is requisite in the case of the former.

But in the first place it must be accepted as a *sine qua non* that no improvement in the force can be effected until we provide it with a complete corps of professional officers and non-commissioned officers, and entirely eliminate the present unsatisfactory body of amateurs. It is as wasteful of time and men as it is absurd to expect officers of this stamp to turn crude material into efficient soldiers, or to gain

the confidence and respect of their subordinates, especially if by having recourse to the ballot you are going to level up the rank and file and fill your ranks to a considerable extent with educated men who are capable of criticising their superiors and detecting their shortcomings. And there is no use deceiving one's self with the idea that the present amateurs can be turned into officers and non-commissioned officers of the required type by putting them through a certain number of courses. Courses are most illusory, and depend entirely for their value upon the keenness, zeal, and intelligence of the individual who undergoes them and the object for which he desires the certificate obtainable at the end of them. No amount of courses will instil into a man capacity for work, self-reliance, or the ability to impart instruction. These qualities are only to be gained by years of application and by those upon whom lies a sense of obligation, and in the case of the Militia officers, their very conditions of service deprive them of opportunities for such application as well as preventing them from feeling any sense of responsibility, since their position is one which they can take or leave at will—merely an idle and independent man's hobby, or in the case of those who are in the force from love of a little amateur soldiering, a relaxation from the real business of life. As for the non-commissioned officers and men, it is doubtful whether one of them is in the force out of keenness for soldiering; men who are animated by that sentiment seek the ranks of the Volunteers or the Yeomanry. The Militiaman is not to blame for his attitude, for it is just what is to be expected under the given conditions, and in accordance with human nature, which is distinctly averse to making-believe. It is encouraging to note that the principle of professionalism among the officers at any rate is to a certain extent recognised by the War Secretary, although even he appears to think that it only becomes necessary if the force is to be available for service abroad; but it is most distinctly necessary if the Militia is to be fit for the purpose for which it already exists, viz., to defend this country in the absence of the Regular Army when employed elsewhere, and for the still more important purpose which it is here proposed to entrust to it, viz., the completion of the Regular Home Army to a strength which will enable it to deal successfully with an invasion. The generally accepted principle is that the more ignorant and dull the instructed the more capable should be the instructor, and if this be true, the officers and non-commissioned officers of the Militia should be at least as good in every respect as those of the Regular Army, and should therefore be obtained, educated, and trained in the same manner, that is to say, by open competition so far as the officers are concerned, to be followed in the case of the successful candidates by a prescribed period at the Military College or Academy. The term "Militia officer" should disappear like the reality, even if in deference to conservative sentiment that of "The Militia" be maintained. Officers and non-commissioned officers of Line regiments and of the regiments of the regenerated Militia should be interchangeable. There should be no "once a Militiaman always a Militiaman"; on the contrary, there should be a constant interchange between the two, and, indeed, but for sentiment, the very name "Militia" should disappear and promotion into the Militia battalions should be the reward of smart subalterns and captains of the Regular battalions. This would afford increased opportunities for putting promotion in the Army on a more satisfactory footing and



doing away with the disheartening and unwholesome inequalities which give us two battalions in the same brigade, in one of which the senior subalterns average nearly as much service as the junior majors in the other. The interchange would of course have to be reciprocal, the Militia subalterns, if not the higher ranks, who so desired, receiving promotion into the Regular battalions, and so obtaining their chances of foreign and active service. The same principle would hold good as regards the non-commissioned officers, and indeed there is no reason why men in the ranks should not be allowed to exchange from one branch of the Service to the other, so long as their doing so did not degenerate into a scheme for foisting incompetents and bad characters on to another unit. It may be objected that this would mean an enormous increase in the item of pay of officers, and that moreover we should be paying many of them to spend the greater portion of their time in idleness; but in reality that need not be so. As a matter of fact there would be a saving of money, as the following figures show:—

	£
Present cost of 124 Battalions . . . . .	666,750
Proportional cost of 74 Battalions to be abolished . . . . .	397,899
	<hr/>
Cost of 50 Battalions to be maintained . . . . .	268,851
Add pay of Officers at 365 days . . . . .	179,397
	<hr/>
	448,248
Deduct pay of Officers for 27 days, already included in original estimate . . . . .	13,254
	<hr/>
Net cost of 50 Battalions . . . . .	434,994

There is thus effected a saving of the difference between £666,750 and £434,994, or in round figures, £231,000. On the other hand, however, there will be an increased expenditure due to increased period of training, for to bring the Militia to the proposed pitch of efficiency an annual training of one month will by no means suffice.

The suggestion is that men should be enlisted for 4 years with the Colours and for 4 years in the Reserve, the age at which the ballot should be made to apply being 19. During each year of his period with the Colours each man to serve for 4 months, followed by a period of 14 days' training during each of his years in the Reserve. At the end of his period in the Reserve a man to be free of all further liability to serve, but permitted to enrol himself in an "Emergency Reserve" for a further term of 4 years if he desired. He would undergo no training whilst serving in that category, neither would he receive any pay, but might be granted a small bonus for each year in which he fired a prescribed number of rounds on a rifle range, to enable him to do which he would be allowed a rifle and ammunition from his former unit and be granted travelling expenses. All Reserve men to be called out either by battalions or half battalions previous or subsequent to the period of training of their former units, when the officers would be free to take them in hand. It will be seen that under such a system, what with their annual training, the training of the Reserve men, and the putting them and the men of the Emergency Reserve



through musketry no very great portion of the Militia officers' year would be wasted from the point of view of the public. To fill up whatever balance of time remained he could be attached to a battalion of the Regular Army, to one of the other arms of the Service, or be put through some of the courses of instruction that all tend to make an officer more efficient and useful once he is really grounded in his profession and is animated by zeal. Then, of course, he should be accorded leave during the slack winter season, and at no other time; a relief from the ordinary round of work as steady and continuous as is contemplated here, which is absolutely essential if a man is not to grow stale. Under conditions such as these the junior officers and the non-commissioned officers of the Militia would have almost better chances of learning their work and of becoming professionals than their comrades of the Regulars, while the rank and file, who would take their tone from them and who, under the chances of the ballot, would consist of better material in every respect, would enjoy the great advantage of being trained and led by competent instructors.

It will no doubt be urged that inasmuch as the country is opposed to compulsory service in any form, and that this scheme relies upon a mild form of compulsion, it is impracticable and impossible. It is hard to believe, however, that the average Briton would prove so unpatriotic and so blind to the necessities of his country as to resist such a measure if the facts were put plainly before him. If he be indeed so lacking in his appreciation of the first duty of the citizen, which is recognised and accepted by almost every other community on this globe, whether civilised or savage, there is of course nothing more to be said, that is if it be also true that no Government would be courageous or disinterested or powerful enough to force the duty upon him. The Ballot Act exists, and needs but to be put in force, and if we examine into the maximum of service to which a man is liable under that Act we shall find that what is proposed here is not very much more onerous. To take lads of between the ages of 19 and 23 away from their regular employment for 4 months in each year is not so serious as may at first sight appear. That it does not interfere with material progress or hamper business or trade is amply illustrated by the case of Germany, in which country the system is more strictly applied than in any other, but whose industrial development during the last two decades has been most marked, and whose entrance into the commercial arena as our dangerous rival is now a cause of anxiety. As a matter of fact, it is now conceded by all except the prejudiced that the qualities acquired, combined with the physical and mental development during a period of military training at the receptive age prove of immense benefit to a man in his after career, and far outweigh any slight inconvenience which his temporary absence or the delay in taking up the work of his life may cause to himself or his employers. Besides, it has to be remembered that in our case these conditions would affect an exceedingly small percentage of the population, *i.e.*, 60,000 or 70,000 at most out of 40,000,000, or about '18 per cent. This could not be deemed a hardship by the utmost stretch of the imagination; here would be no handle which the demagogic advocate of liberty could grasp. If we inquire closely we shall find that the average young man of from 19 to 23 years of age is not earning very much, and that the pay and bounty offered him, combined with his housing and maintenance

during the training periods would constitute a very fair *quid pro quo*, and would in the majority of cases cover any loss of wages or salary.

But one of the greatest advantages to be anticipated from the enforcement of the ballot is the improved recruiting for the Regular Army which would result. By having recourse to the ballot for maintaining the Militia, and allowing no substitutes (an amendment of the Act to this effect being advocated), we should close the ranks of the force to the class of man who now chiefly fills them—the man who ekes out a precarious livelihood by means of the trainings when his unit is “up,” and intermittent manual labour when it is down, a man, too, who as often as not boasts of a double or treble identity, and figures on the strength of three or more units, thereby falsifying the returns as to numbers, and robbing the exchequer. This individual could not exist without the Militia pay and bounty, and being deprived of them will be driven into the Regular Army. It may be said: “Yes, but he will be as undesirable there as in the Militia.” That, however, is not the case. We certainly do desire to raise the social level of the ranks of the Regular Army, but it is to be feared that there is little or no chance of our ever doing so, and, indeed, that likelihood becomes steadily more improbable with the lapse of time. Soldiering, except of a voluntary description, which is free from the feeling of compulsion, and with which a man can sever his connection the moment he finds it irksome, is out of tune with the times. Professionalism finds no favour even with those who believe themselves keen, but who, in the majority of cases, are merely under the glamour of the pomp and circumstance of war and the strains of the band. One of the chief characteristics of the modern Briton is his impatience of restraint of any kind. The material advantages and the prospects in the Army are quite sufficient as it is to attract energetic and ambitious young men with a penchant for soldiering; but they will not come and submit to the loss of freedom which service in the Regular Army entails when they can satisfy their bent and obtain all the fun in the Militia, the Yeomanry, or the Volunteers, and at the same time, be made a great deal more of. So long as these outlets for their military ardour exist, so long will they take advantage of them and eschew the Regular service with its more onerous conditions and irksome restraints. It is only by closing them that we are ever likely to force such men into the latter. And by putting a termination to free enlistment into the Militia there is no doubt that a considerable percentage of those who would otherwise enter that force will enlist into the Regular Army, particularly if the conditions of the two branches of the service are rendered more similar. The Militia is at present one of the chief enemies of recruiting for the Regular Army. The men thus obtained would not, as already pointed out, raise the tone of the Regular Army, and, indeed, the tendency would rather be the other way; but the Regular Army is in a better position as regards opportunities and amount of time available to lick such men into shape and make something of them than is the Militia, and therefore this material would be turned to better account than it is at present. The Militia ballot, then, in addition to giving us in that force a superior type of man, whose presence in it would bring about a most desirable levelling-up of the rank and file, and whom we could not hope to secure in any other way, would at the same time bring about an accession to the ranks of the Regular Army amounting probably to some thousands or



more of men who, if not of the most desirable class, are most welcome in default of anything better. To sum up, the advantages of the proposed reorganisation of the Militia and alteration of its conditions of service would be the following:—

1. The creation at but comparatively little greater cost than that of the present Militia of a really efficient force almost the equal of the Regular Army, and capable of supplying the infantry units necessary to complete the field or striking force requisite to meet possible invasion.
2. Simplification of the administrative machinery.
3. Increased efficiency of the officers, non-commissioned officers, and the training staffs.
4. Provision of an adequate reserve to maintain the units at their proper strength in time of war.
5. Removal of one of the chief sources of competition with recruiting for the Regular Army, combined with the securing of a superior class of men for the Militia.

It is difficult in a brief essay like the present to enter into a calculation as to how far, if at all, the proposed regeneration of the Militia would increase its cost. The cost of paying the officers throughout the year has been included in the foregoing calculation of the saving to be effected by the abolition of 74 battalions. There would be increased expenditure under the following heads:—

1. Pensions and gratuities of officers and of such non-commissioned officers as were allowed to serve on voluntarily.
2. Increased cost of extended training.
3. Training of the Reserve and of the Emergency Reserve.
4. Cost of the working of the ballot system.
5. Musketry.

Of these heads, however, it must be pointed out that (1) and (3) are both prospective, whilst the increased cost under the remaining heads would be in part balanced by the saving of £231,000 which we have seen would be effected. As a set-off, too, there would be savings over the following items:—

1. The instruction and pay of the recruit on enlistment.
2. The bounties, which would be abolished.
3. The Engineer branch of the service, the Garrison Artillery, and other departmental troops, which it is proposed to abolish.
4. The pay of the Militia Reserve, which would cease to exist.

As regards (3), we know that this step is contemplated by the Secretary for War, so far as the Artillery are concerned, and certainly it would be judicious, for it is absurd to maintain this expensive arm under its inferior officers at a greater strength, at any rate, than that deemed necessary by the General Staff and the Defence Committee. Neither has any allowance been made for the fact, as foreshadowed by the Secretary for War, that in future the Militia will probably be called upon to undergo a longer period of training than at present.



To lengthen the training by even one short week would increase the cost of the present force by £45,000. The saving to be effected by the reduction of the Garrison Artillery would represent a substantial set-off to the increased cost of the regenerated force such as it is proposed in these pages to establish. And there seems no reason why it should not be further swelled by the complete disbandment of the Militia Engineers, since, having regard to the usual proportion maintained between the various arms and the reorganisation of the Regular Army, the greater portion of these at any rate would be superfluous, whilst such of these units as were required to complete the various divisions could be better obtained from other sources, as it will be attempted to show later on.

Thus for a limited increased annual expenditure on the Militia we should obtain the following advantages:—

1. The provision of an adequate number of efficient battalions, composed of a superior stamp of officers and men, to complete the striking force necessary to repel an invasion, and to replace the latter in the event of its having to leave the United Kingdom.
2. The force would always be maintained at its established strength, and the present waste of men and money, due to causes which are inevitable under the voluntary system, would be avoided.
3. Simplification and co-ordination of the organisation and system of training throughout the Regular and Militia infantry.
4. The provision of a corps of officers capable of training their men and of leading them against the professional troops of Continental Powers.
5. The provision of an adequate reserve on a simple inexpensive organisation.

## 2. *The Yeomanry Cavalry.*

If the soundness of the plan herein advocated be conceded, and it be recognised as feasible, what, then, are we to do with the remainder, that is to say, with the great bulk of the Auxiliary Forces as represented by the Yeomanry and the Volunteers? The answer of the practical business man who declines to be swayed by sentiment or to allow his judgment to be warped by outside considerations, must surely be in favour of ending them, at any rate, as they are at present constituted. Take the Yeomanry. If it be our intention to maintain a force capable of carrying war into an enemy's country, it cannot be for a moment admitted that the Auxiliary Forces—and in especial the Yeomanry—are in any way adequate for the purpose, either in point of efficiency or of numbers. If we require or desire an Army capable of coping with any of our possible Continental foes on their own territory, that Army of course requires its due proportion of cavalry, and cavalry of the first quality. No one can maintain that we obtain either the proportion or the quality in the present force of 23,000 men. That body, if we are to undertake the offensive in respect of other great Powers, is absurdly inadequate. If, on the other hand, we are to confine ourselves to the defensive or even to

the offensive-defensive, it is much too large. But in either case it is not up to standard. Fancy pitting the 14-days'-training-a-year Yeoman against the professional cavalryman of Germany or France! Assuming, however, that we have no such idea, and only intend to use our Yeomanry as we intend to use our Infantry Militia, *i.e.*, for repelling an invasion, it may be said at once that the force is superfluous. If there is any one country in which cavalry action is limited more than in another it is Great Britain. There is practically no place for this arm in the fighting line. This, then, limits its sphere of usefulness to reconnaissance work and to covering the flanks during an engagement; but the more enclosed a country is and the more the movements of troops are confined to roads, the smaller are the bodies of cavalry required for reconnaissance work and the keeping in touch with the enemy. For the same reason, the smaller is the number of mounted troops required for protecting the flanks from counter-attacks or from turning movements during an engagement, whether a force be acting offensively or defensively. Besides, it is certain that in this populous country, with all the resources of civilisation at its command, with a network of telegraph and telephone wires, not to mention numerous railways, covering the whole land, and with reliable and intelligent officials, such as postmasters and police constables, in every village, we should obtain far more information through such sources than through the cavalry, no matter how efficient the latter might be. Every consideration, then, demands the reduction of the mounted portion of a force chiefly intended for use in Great Britain to a considerably smaller proportion as regards the other arms than that which is found necessary in Continental Armies. It would be a great mistake therefore to block up roads and add to the difficulties of supply and transport by encumbering our field force with masses of superfluous cavalry—especially of inferior cavalry.

The recent war with the Boers gave rise to very exaggerated notions regarding the value of the Yeomanry cavalry. The fact is quite lost sight of that the work they were called upon to perform in South Africa was of the most elementary description; that the enemy they confronted was devoid of military knowledge and training, and that numbers were overwhelmingly on our side. Neither can it be urged that, even thus advantageously placed, the Yeomanry acquitted themselves well—as a whole, at any rate. Nevertheless, the mere fact of their going to the seat of war has engendered the idea that they constitute a reliable body of cavalry—an idea which no general who had experience of them has undertaken the graceless task of refuting, although the interests of truth, of the Army, and of the country demand that this should be done. But whatever the achievements of the Yeomanry in South Africa, it is no reproach to them that they are in no way equal to opposing trained cavalry, for the amount of training which they receive is absolutely inadequate to fit them for such a purpose. The annual period of training has now been permanently increased to a fortnight; but what is a fortnight for such a purpose, even if it were taken seriously. It would be little enough for a reserve consisting of old soldiers who had learnt their work during years of permanent service in the Regular Army; but the Yeoman is a civilian pure and simple, with everything to learn during his meagre annual training, and we cannot shut our eyes to the fact that even this fortnight is by no means made the most of, but that it is chiefly regarded by the majority, both officers and men,



as a pleasant outing, during which mounted competitions, regimental sports, and local race meetings are the first consideration, and not to be interfered with by any little drills or irksome tactical schemes, for which time might otherwise be found.

It is so easy to knock up diaries of work performed which will at once satisfy inspecting officers and the public and not unduly strain the conscience. Can any one assert with truth that at the end of his fourteen days in camp the average officer, whether squadron leader or troop leader, has anything more than the haziest notion of reconnaissance duties or has ever thought or read anything concerning the principles on which cavalry is employed? Can it be pretended that the trooper on going down has acquired more than the knowledge of a few parade movements or the standing like a dummy on vedette duty, or that he has made any attempt to learn to shoot with the carbine which he "carries" so bravely. In knowledge of the many matters with which he should be acquainted and with which our Regular cavalryman to a great extent is acquainted, the Yeoman, whether officer or man, is the veriest tyro. For this state of affairs the Yeomanry officer is scarcely to be blamed. If he has nothing to gain by hard work and the acquisition of military knowledge, and if the country is willing to take him seriously without demanding these things of him, why should he voluntarily trouble himself with them? He is an independent man of means and of leisure, else he could not be in the force as it is at present allowed to be run, and which outhierods Herod, *i.e.*, the Regular cavalry, in the matter of extravagance, ostentation, and gold lace. It is idle to shut our eyes to the real reasons which attract him to the force. These have been alluded to in the discussion of the Militia, and the Yeomanry constitutes the rich man's Militia. Besides, how is he, with the best will in the world, to learn in the course of a few days what it takes the cavalry officer years of training to acquire and constant practice to retain?

If, then, a force of this nature would be superfluous, even when efficient, how much more so is it when in the condition here depicted, and which is by no means an exaggeration. During the current year it is to cost us £438,000 for a strength of some 27,000 officers and men. Why not reduce the force to the strength of a cavalry brigade, completely organised in all respects as such, officering it from retired officers of the Regular cavalry or mounted infantry? The training would of course have to be greatly lengthened and to be taken far more seriously by both the military authorities and the units themselves; but it seems more than probable that a sufficiency of men could be found in the existing force who would be ready to serve for 6 weeks or so annually during a period of 6 years, given adequate pay and allowances, of course. This period could be followed by a further period of 3 years of reserve service, during which each man would come up for, say, three weeks' training with his former unit. When the system had been in force 9 years, moreover, it is a question whether it might not be possible to reduce the standing establishment by one half, counting upon the reserve to furnish the other half, although without increasing the length of the annual period of training for the latter. If these means did not suffice for maintaining the small force, extend to it the provisions of the Ballot Act as well as to the Militia; but applying it only to those classes which constitute the material of which the Yeomanry ought



properly to be composed. This would carry with it the additional advantage of eliminating the stamp of town bred man of sedentary calling, dependent on livery stables for the hire and the care of his "charger," who is too much in evidence in many of the units at present. If the right stratum were tapped there should be very little need to incur the trouble and expense of teaching the recruit the parts of a horse or how to ride it. The money saved by the reduction of the force would more than cover the cost of properly organising and training the reduced force, so that we are in the presence of one of those rare occasions when retrenchment goes hand in hand with increased efficiency. These measures would not suffice to turn out efficient cavalymen, but they would give us far better trained Yeomen than we have under the present system, who would be fairly competent for the mounted infantry duties which are all that the force is ever likely to have to perform.

It is not to be denied that just at present the Yeomanry is the most popular branch of the auxiliary services, and that because it proved to a limited extent useful on an occasion, the like of which will probably never recur, but it is absurd on that account to maintain that it will be useful under normal conditions in a campaign conducted in accordance with the principles at present accepted by civilised nations; principles which are forced upon them by a recognition of the circumstances which control modern warfare. Let us ask ourselves what will be the rôle of our cavalry in the event of an invasion. It will certainly not be the locating of the invader at the outset. That will be the work of the coastguard, who may be said to represent the supporting squadrons of our advanced patrols, consisting of any cruisers and smaller craft, or even merchant vessels and fishing boats flying the British flag that may be off the coast. We may take it as certain that wherever the invader attempts to land, his whereabouts will be promptly reported by the adjacent coastguard stations, if not also by the local authorities. Thus he will be located and troops will most certainly be on the way to attack him long before his force has even completed its disembarkation, whilst from that moment onwards telegraph offices, cyclists, motorists, and others, will be constantly reporting his movements. The object of the British field force will be to close with the invader at the earliest possible moment, since every hour gained by him probably means an accession of strength, and the gaining of a firmer foothold. There is thus no necessity for an elaborate cavalry screen carefully covering the front. Such little cavalry as is necessary will be required on the flanks of the striking force, leaving the front clear for energetic and decided action. And one of the main recommendations of the Yeomanry has always been the knowledge of their own locality possessed by its several units, and therefore, their supposed value for scouting purposes. But apart from the consideration of their inadequate training for scouting work, we have seen above that there will be very little of it to be done, and the endeavour has been made to show that our modest body of Regular cavalry suffices for our requirements in that connection. Besides which, if wanted at all, the Yeomanry cavalry would, in all probability, be called upon to work in districts with which it was not acquainted. And it is certainly a fact that one good scout is worth ten indifferent ones, so that a small number of the former is worth far more than a great many of the latter, whilst the more the roads are left free for the

unhampered movements of our infantry the better. The Yeomanry as at present constituted, is a superfluous force for which no use can be found unless indeed we apprehend further trouble in South Africa, when, no doubt, it would, as on a former occasion, be able to make some show against the untrained Boer yeomen. There is no scope for it on the battle field of the British or European type, and it is not required for scouting purposes, because we have without it sufficient better and more reliable mounted troops for carrying out that work. With the brigade of more highly-trained Yeomen, such as is suggested here, which might be provided at a considerable saving on the present expenditure on this arm of the auxiliary forces, our requirements in cavalry would be more than met.

### 3. *The Volunteers.*

In view of the present state of public feeling towards the force, and the outcry which the proposal to lop off a few of its superfluous thousands has raised, it seems a waste of energy to maintain that the Volunteers, at any rate as at present trained and organised, are a hindrance rather than a help in any scheme for the defence of the Kingdom. Supposing that the Volunteers were all that they are deemed to be, and animated by the purely patriotic spirit by which they are as a body believed to be animated, it might seem an ungracious task to decry them; but it is the duty of the serious man to look facts in the face, and to take things as he finds them. In the first place the great mistake is made of regarding the force as a homogeneous whole. As a matter of fact scarcely any two of its units are alike in constitution, in organisation, or in their degree of efficiency. Volunteering was originally intended for the class of man of superior intelligence, occupying positions above those of the artisan or workman, and able to afford to give a certain amount of his leisure to acquiring the A.B.C. of soldiering. His education and intelligence were supposed to assist him in learning these things in a comparatively short space of time, whilst his comparative independence in regard to means and leisure provided him with the necessary opportunities. But nowadays only a very small proportion of the units consists of men of this stamp, viz., a proportion of these belonging to London and the large cities and towns. For the rest we have the county corps, consisting for the most part of men from the smaller towns or larger villages; small shopkeepers, clerks, and such-like, but very rarely the real country man. Then there is the third and largest section of all, comprising all the corps principally recruited from the labouring classes. There are units entirely composed of rivetters, dockyard mateys, or factory hands, whose low standard of intelligence, whose habits of life, and whose impatience of restraint quite unfit them for volunteering. No amount of training, after the Volunteer fashion, would ever make soldiers of them. They approximate to the type of man who joins the Regular Army, in which indeed a great proportion of them would be did the Volunteers not exist. In this way the Volunteer force, like the Militia, robs the Regular Army of numbers of men of whom it is badly in need, whom it is in a better position to turn into efficient soldiers, and whom, but for the rivalry of the former, it would secure. This section, which is by far the largest of the three into which the Volunteers may roughly be divided, is worse than useless, and, indeed, constitutes a hindrance and a



danger; a hindrance as standing in the way of the interests of the more important Regular service, and a danger because of the false ideas existing as to its worth. It is scarcely any exaggeration to say that every penny spent upon units falling under this category is a penny wasted.

Very much the same may be said of those comprised in the second category—the county corps. Made up as these are, in the case of the infantry, of companies scattered over large areas, and even so but rarely assembling in their integrity, it is not surprising that their discipline and steadiness, not to speak of their military knowledge, are of the lowest order. A dozen sketchy visits from an adjutant, coupled with a few days in camp during the course of each year, are nothing like sufficient to instil into a corps of this class, even the rudiments of what it is necessary for them to acquire, if they are to be of any use at all, or to cause them to take their soldiering seriously. The men who enlist in these country corps, or, as they ought more correctly to be called, small town corps, are just the individuals whom the ballot ought to try and catch for the Militia. There, under the conditions herein proposed, there would be a very good chance of making good soldiers of them, whereas under existing conditions they are merely promising material wasted. Then let this class of Volunteer also go by the board, and let us make a further saving on their account.

We have now boiled our force down to what are sometimes called the “class” corps, that is to the type of man who is the best fitted for a Volunteer. Anyone with experience of the force must be aware of the marked difference that exists between corps of this sort and all the others. The greater earnestness and sense of responsibility of their members, combined with their higher intelligence, does enable them to reach any given standard in a far shorter period than that required by their compeers. In every sense the appearance and bearing of these corps causes them to compare very favourably with the rest of the force. However, it is merely a matter of comparison and nothing more, for even so the “class” Volunteer stands upon a very much lower level of efficiency than the Regular soldier. It is perfectly true to say that, give him 3 months or so continually under arms, and he will prove to be as efficient and reliable a soldier as could be desired; but that is just the point. We cannot afford him these 3 months. When we want him at all we want him in a hurry, for an invader (the chief if not the only enemy the Volunteer would or should have to deal with) is not going to sit down and wait while we supplement his drill-hall training with a practical one, and teach him to march and look after himself and to obey his officers. Thus for practical purposes even this superior class of Volunteer is of very little use.

A further source of weakness is the lack of homogeneity in the units themselves and in their organisation. Battalions vary in strength from 348 to 2,788 and from 4 companies to 16. These heterogeneous collections are loosely organised into so-called brigades, which latter in their turn present no uniformity, but consist some of as many as 7 and others of as few as 3 battalions. Scarcely one brigade has a complete staff, there being a very marked shortage in respect of the most important individual of all—the brigade-major, who, even where he does exist, is in some cases merely a Volunteer officer. The brigades are commanded *ex-officio* in the majority of



cases by the colonels commanding regimental districts, but as these officers cease to be under the new organisation most of the Volunteer brigades will soon find themselves without permanent leaders. It is understood that in future Regular officers will be appointed to this position, but will they be permanent holders or merely appointed for the drill season? In the latter event the brigades will be but little better off than at present. The Army List credits most of these brigades with A.S.C. companies, meaning presumably supply columns; but most of these companies have little more than a paper existence, some of them still lacking a commander, and very few boasting of a second officer. There are good grounds for saying that the regimental transport is in some cases a mere sham arranged to blind the authorities and keep them quiet and to enable the annual allowance per vehicle to be drawn during the time spent in camp. Most of the wagons and horses are the property of trading firms, building contractors, or carrying agents, the drivers being also in their employ, and it is often a difficult matter to induce them to spare vehicles, beasts, and *personnel* simultaneously, especially during busy periods, and it is fairly safe to say that they could not or would not spare them at all should war break out and an invasion of this Kingdom result, for at such a crisis their ordinary work would be greatly increased, at any rate for a time. Besides, if all the Volunteers were called out simultaneously these wagons and horses would be under the necessity of being in more than one place at the same time, since the same set is under agreement with more than one unit. In one large city it was a known thing that the same 4 vehicles did duty at the annual inspections of a considerable number of battalions, the result being that the names of units on their tail-boards were being constantly altered.

As regards their medical arrangements, the Volunteers seem to be better off, for bearer companies are forthcoming in plenty, and there is no reason whatever why even under present conditions they should not be as efficient for the work legitimately required of them as the corresponding units in the Regular Army. One or two brigades have no company, however, so that even in this respect the brigade organisation cannot be said to be complete.

A force presenting all the shortcomings in respect of the quality of its *personnel*, its standard of efficiency, and its organisation enumerated above cannot be deemed either useful or reliable; but even were it otherwise, even were the condition of the force in these respects as satisfactory as it is in reality unsatisfactory, what use have we for it as at present constituted? Its brigades, its battalions, its companies even are not required for service abroad; our organisation for the purpose of meeting invasion, it is submitted, is complete without them, whilst if we adopt the Secretary for War's confident and comprehensive view that the country is absolutely safe from invasion, it is impossible to find any justification for their continued existence. As, however, military opinion is opposed to the War Secretary in this view, and it is considered necessary to form plans for meeting an enemy on our own home territory, it has to be asked:—

- (1) Whether the Volunteers are really wanted in this connection; and
- (2) whether in that event their present organisation is the most suitable for the purpose. The answer to (1) is a qualified "Yes"; to (2) an emphatic "No."

What would the situation be in the event of an invasion? The invader would suddenly appear at the predetermined point of landing, for we may take it that the attempt would be made, or at any rate might be made, immediately after the declaration of war, even if not prior to that formality, before we had ordered mobilisation. His presence would be immediately made known to the Army Council. That body would at once despatch the striking or field force or a portion of it to oppose him. The time occupied by the latter in reaching the threatened point would depend:—

- a. Upon the locality chosen by the invader for his disembarkation, *i.e.*, its distance from Aldershot, and its accessibility.
- b. The extent to which railways and roads facilitated the conveyance of troops to the threatened point.
- c. The season of the year and the state of the weather.

But under the most favourable circumstances some hours might be expected to elapse before the field force was able to offer active opposition to the landing. By that time the invader would have landed a considerable proportion of his combatant troops, probably equal to that which we could oppose to him at the outset, and have seized points of strategic and tactical importance, besides interrupting telegraphic communications in all directions and damaging the neighbouring railways. Well, how could the Volunteers assist us at such a crisis? Those in the county in which the landing was being effected, and possibly in the adjacent counties, would be called out after some delay. They would doubtless turn out as smartly as they could, but it is highly improbable that, what with drawing their arms, ammunition, and field equipment from their armoury, obtaining rations, bedding and so forth, and packing these into the regimental transport vehicles, supposing the latter to be forthcoming in a hurry, it would certainly be from 12 to 24 hours at the lowest estimate before even 50 per cent. of the majority of the units, even of concentrated town units, would be ready to move from their regimental headquarters to any point. The ability of the Volunteers to turn out at short notice for a surprise (!) parade or march during peace time is no measure of their ability to do so for the purpose of taking the field in earnest. One can leave one's work and one's private affairs in the lurch and dispense with one's little comforts for an hour or two, but it is another matter when one is going off for an indefinite period and with the possibility of never returning.

Well, having assembled our battalions each at their various headquarters, we have then to assemble them in brigade, after which we can think of moving them against the invader, possibly without any staff to direct them or in accordance with any preconceived plan, but still we can move them. By this time, however, there will be a sufficiency of Regular troops belonging to the striking force in the field, and the presence of the ill-trained Volunteers at the scene of action would be more of a hindrance than an assistance.

What is the remedy, then? Why, to abolish the present unwieldy and expensive organisation and to substitute a simple and effective one for it. To accomplish this the following measures would be necessary:—



1. Abolish the whole of the inland corps, whether infantry, artillery, or what not.
2. Divide the whole of the coast line into sections, selecting some central strategic point slightly inland in each section as its head quarters, not necessarily as a place of assembly, but merely as the point from which to exercise control and issue instructions.
3. Organise the Volunteers of the counties bordering on the coasts as distinct company or battery units.
4. The size of the various sections to be determined by the nature of the country and of the coast, *i.e.*, by the probability, or the reverse, of its becoming the scene of a landing, and of its populousness.
5. Apportion to each section a Volunteer force of infantry and artillery.
6. The bulk of the artillery to consist of heavy batteries of quick firers and howitzers, and the infantry to be chiefly mounted infantry, the exact proportions of the arms, and number of the troops in any given section depending upon the nature of the country in which they would have to operate.

By these means we should have a ready and fairly effective means of promptly opposing an invader directly he attempted a landing. His operations would thus be impeded and delayed from the outset, instead of his being accorded the few all-important essential hours wherein to make good his footing, and establish a covering party which he would otherwise enjoy. No matter how perfect his arrangements, how excellent his troops or how numerous, the disadvantage at which they would be taken if attacked when disembarking or immediately afterwards, before their marching columns were organised, would go far to neutralise their superiority and to justify even Volunteers in opposing them unaided. The range and effect of modern weapons and their accuracy are such that even the veriest tyro in tactics could use them with effect at such a juncture, since manœuvring would not be required, whilst no set attack would be made or defence of a position undertaken. The batteries and companies as they came to the threatened spot would merely do their best on their own initiative to delay and disorganise the enemy during the actual process of disembarkation, and would then retire. In fact, both artillery and infantry would indulge in mere sniping tactics. If each section were subdivided into sub-sections, the Volunteers of the sub-section would be easily and rapidly available for action on the spot, particularly if the infantry portion of them were mounted, or, better still, in districts where roads were good and plentiful, as is generally the case near the coast, were provided with bicycles or motor cars. Employed in this way the Volunteers, it is urged, would be distinctly useful and would supply an urgent want which the Regular Army is not equal to supplying. Auxiliary troops, such as the Volunteers, could be most usefully employed in this work of delaying the enemy's progress and in gaining time for the Regular Army, whereas, to fritter away the latter, behind which there is nothing reliable for field operations, in such a manner would be highly improper. At present the Volunteers are an unwieldy, undigested, and, indeed,



undigestible mass, the great bulk of them, even supposing they boasted of any adequate organisation and training, being superfluous to our wants. We are not going to deter any prospective invader by letting him know that we possess hundreds of thousands of men with muskets whom we could not oppose to him with reasonable chances of success, even if we could bring them together quickly and move them about. We should impress him far more by presenting to his gaze a properly organised force of one hundred thousand, each man of which had his appointed place and his sphere of usefulness in the system of defence of the country, as a supplement to, and not as a substitute for the Regular soldier.

The question of the utility of the artillery Volunteers requires to be specially dealt with, in conjunction, however, with that of the same arm in the Militia service. The Secretary for War stated in his memorandum accompanying the Army Estimates for the current year, that much of the Militia garrison artillery was redundant for defence purposes, and certainly so far as can be judged by probabilities and without knowing the details of the schemes for the defence of our fortified ports and of the capital, that would appear to be the case. It is not clear whether the War Secretary, when expressing this belief, bore in mind the existence of the Artillery Volunteers, and meant that when allowing for the latter the Militia Artillery became superfluous. But whether he did or did not it seems safe to say that it would be better for every reason to suppress the whole of the Militia Artillery, and to rely entirely on the Volunteers for all of the *personnel* of this arm which we require as a supplement to the Regular organisation. This is just the sort of work that an intelligent man can pick up in odd hours, without spending a comparatively long and continuous period in camp, and at little or no expense to the individual or the public. By abolishing the Militia Artillery we shall save the expense of assembling the units annually for training, and paying them, and we should no longer have in our big towns, many of them far removed from the coast and enjoying but few opportunities for gun practice of practical nature, two rival organisations both intended for precisely the same object.

In reducing the Volunteer infantry to the proposed limit of 100,000, all suitable individuals should be offered the chance of transferring to the artillery branch, at any rate so far as units belonging to the coast towns and districts are concerned. When eliminating infantry units, as units, from the present Volunteer infantry, all that are superfluous in the coast towns should go, or be converted into artillery, if local conditions required any of the latter and proper facilities for training it existed. In future, no men residing inland should be accepted for the artillery unless they were willing to bear the expense of travelling as often as necessary to the nearest coast battery available for purposes of practice. In this manner the requirements of our coast defences as regards artillery *personnel* would be cheaply and effectively provided for, particularly if it could be arranged to use Regular gunners for the more important gun numbers, and to cause the Volunteers to drill with them. It seems hardly irrelevant, however, to again record the opinion here that the very greatest service which the discarded artillery Volunteers, whether Militia or Volunteer, could offer their country would

be to join the Naval Artillery Volunteers, and so help to build up a reserve of gunners for employment in our first line of defence. But this paper has to look at things entirely from the point of view of the interests of the Army, and not from the broader, national standpoint. The estimated cost of the Volunteers during the current year is £1,220,000. The establishment is 344,045. At this rate, the force, if reduced to 110,000, would cost, in round figures, £400,000. This is only approximate, as in the absence of details there is no way of arriving at the separate costs of the various arms, while that of the batteries of artillery, which it is proposed in this paper to establish, and of the mounting of the bulk of the infantry, is difficult to estimate until the numbers have been worked out, a task which is outside the limits of this discussion. It seems well within the mark, however, to say that the saving on the force would amount to one-half the present cost, or some £600,000, whilst for the money actually spent we should receive far greater value. This calculation presupposes the maintenance of the medical corps, which, as we have seen, would be utilised elsewhere, although, no doubt, each unit would obtain the services of a local medical man and would train a few of its members as stretcher bearers. The garrison artillery is also retained, as we have seen above, as the exigencies of recruiting for the Regular Army would continue to render them necessary in the scheme for the defence of our fortified ports, although, as in the case of the Militia, the strength of this arm, and therefore its cost, could be considerably reduced.

The Army Service Corps organisation would, however, be no longer required, and the large sum spent on travelling and on camps would cease to be necessary. The training of each unit should consist in:—

- a.* Learning to move with celerity as a unit by march route within its section.
- b.* Learning to shoot at such targets as it would have to shoot at in the event of an invasion, such as boats approaching the shore, men assembling on a beach, and “sniping” with a rifle.
- c.* Becoming acquainted with every inch of ground in their section, especially short cuts, cross-roads, points of vantage for signallers and look-out men, and all possible localities favourable for carrying out a disembarkation, together with the position from which to oppose it and the best methods of manning them.

The methods of obstructing roads, of preparing bridges for destruction and actually destroying them in case of necessity, as also of putting houses in a state of defence, would all prove useful knowledge and far more practical than the acquisition of a smattering of the methods of moving and manœuvring brigades and divisions and attack upon formidable positions. All the above could be learnt in a training no longer or more exacting than that which the Volunteers at present undergo, whilst the necessity for going into camp for a fortnight, which they consider so great a hardship, would be obviated, whereas if the force is to be fit to take the field on the higher organisation the fortnight by no means suffices.



*Rifle Clubs.*

Whatever else we do, let us avoid placing undue reliance upon Rifle Clubs, or encouraging the pernicious belief that these as at present constituted can have any value whatever, militarily speaking. Amongst the many dangerous fallacies to which the late Boer War gave birth was the idea that so long as a man can shoot he possesses the one requisite of the modern soldier; but there is something far more important than the mere shooting straight and aligning sights correctly on a mark, whether fixed or moving, viz., the gauging of the distance away of the mark and correctly adjusting the sight accordingly. In other words, the ability to judge distance is even more important than the ability merely to align sights correctly. The last is the complement of the first, and the two in combination are essential to good results in the field. But to the average man, learning to judge distance is both difficult and irksome, for it is only acquired with considerable pains, especially by the individual not engaged in outdoor pursuits in the country. Well, the latter is not the sort of man, unfortunately, who joins rifle clubs. The majority of the members are persons leading sedentary lives in our towns and villages who find a little mild exertion and "petting" a welcome recreation. For this they are willing enough to go on to ranges where all the firing points are clearly marked and to spend an evening in an indoor miniature shooting gallery, but to go to the trouble of estimating ranges and then to verifying them is not to be expected of them. They are under no compulsion, and even the professional soldier would not practice judging distance without compulsion.

But even supposing that the rifleman were a good shot for all practical purposes, of what use is he without organisation, without discipline, without uniform even, and innocent of all military qualities? What is he to do at a crisis? Not the enemy from behind hedgerows and windows? Well, we know the sort of treatment meted out to persons who acted that part by the Germans in 1870, and what the accepted opinion is amongst civilised nations concerning free-lance action of this description. In the Franco-German War even the *Francs Tireurs*, who made some sort of a pretence to the possession of an organisation and some sort of uniform, were shot down whenever caught. And no doubt Britons behaving in the same way would be similarly treated by the invader. Besides, consider the embarrassment to the commander of the British field force if he is to have irresponsible sharpshooters discharging rifles all round him day and night—men independent of him in every way and in most cases anything but willing to obey orders. It may be said that in the event of a war of invasion, the members of these clubs would at once enrol themselves as Volunteers. Yes, possibly; but just at that crisis the Volunteers would have been called out and concentrated at various centres, and would have neither time nor opportunity for devoting their energies to the training of recruits, apart from clothing and equipping them, even supposing these accessions of strength were needed.

The Rifle Clubs indeed are merely the latest plausible excuse to enable the manhood of the Kingdom to still their consciences in part for evading their direct obligation of personally serving their country as soldiers. The War Office, although forced by the politicians



to accept them, laughs at them, and regards them as one of the many obstacles to an honest recognition of the fact that if we are to maintain our place in the council of great nations we must be as strong for offence as for defence. If we are not, we render it possible for warlike nations to say: "Oh, yes, Great Britain can perhaps defend what she has got, if attacked, but she cannot take the initiative and attack us; so we can afford to ignore her." Why do the Continental Powers maintain their huge armies? Far smaller numbers would suffice for mere defence carried out on proper principles; but they are aware that in order to be really formidable and safe they must be able to hold over their neighbours the threat of invasion. We content ourselves with boasting that we can sweep the seas clear of their ships; but they do not possess sufficient ships to be impressed by such an operation, and are not dependent on other countries as we are for their food supplies.

Why are we drawing in our horns now and reducing or abolishing many of our over-sea garrisons? It is not because we cannot afford them or because we honestly believe that it is superfluous to hold them. It is because of the increasing inability of our people to appreciate the duties and responsibilities of Empire, their growing dislike of restraint or anything which threatens their personal comfort or their pleasures. A thousand arguments, or rather pleas, are brought forward against conscription, and we are asked to be content with all sorts of inferior substitutes and make-shifts in its stead. All classes refuse to recognise that universal compulsory service is compatible with—indeed directly conducive to—material progress, as is evidenced in the case of a great nation of the same original stock as ourselves. The country does not want to see these things or to accept the only logical conclusion to be deduced from them, and hence the popularity of every institution which can in any way be represented as saving us from the necessity of giving practical effect to that conclusion.

Such is the state of public opinion in the matter that not an authoritative organ of the Press has dared to advocate conscription, and even experienced officers of the Army hesitate to do so in words, however strongly the Service generally may be in favour of it, whilst the few who do demand it are not taken seriously or accorded a hearing. Summing up, then, the conclusions arrived at, we find:—

1. That the numbers and organisation of our military forces and our adherence to the voluntary system tie us down to a defensive attitude so far as other great Powers are concerned.
2. That the teachings of history, the march of science, and the political outlook combine to create situations which would render invasion of the United Kingdom feasible, if not easy.
3. That the Regular Army at home is not strong enough or properly organised to deal with such an invasion.
4. That none of the Auxiliary branches of the Service as at present organised, trained and recruited are capable of properly co-operating with the Regular Army or of making up for its lack of strength.
5. That the enforcement of the ballot for the Militia, combined with the reduction of that force to considerably

less than half of its present establishment would put the latter in a position to make up the deficiencies referred to in (3), and also to provide a second line of defence of quality almost equal to the first.

6. That in this event a Volunteer force of 100,000 men on a simpler and less expensive organisation than at present, and having less ambitious aims, would be ample for all our purposes, and far more useful than the larger force now is.
7. That in view of the restrictions on cavalry action, both on the field of battle and as regards reconnaissance, due to the very enclosed nature of our populous and highly-developed country, the force of Regular cavalry now serving at home is both numerous and strong enough for all our purposes, and that therefore the Yeomanry cavalry is superfluous.

We have still to deal with the plea of those who urge that rather than discourage such military spirit as animates the nation, we should accept anyone who offers and take from him thankfully such modicum of service and in such form as he is inclined to offer. Such an idea seems scarcely worth the trouble of refuting. Where are you going to stop once you start in this direction? Already we have degenerated from Volunteers to Rifle Clubs, and no doubt any crisis will revive the ridiculous proposal raised in a great city of the north during the Boer War, to the effect that citizens should enrol themselves as "Queen's Burghers," and on the strength of doing so be supplied with a rifle and a bandolier. Nothing more; no drill, no bother, no responsibility, only a claim to be regarded as a self-sacrificing patriot. The simple answer to all these pernicious proposals is, that the citizen will best evince his patriotism and his spirit of self-sacrifice (if it is a sacrifice) by giving his personal service in the Regular Army, and not waiting until we are at war to do so, but by doing it now.

With the Regular Army kept up to strength by the enlistment into it in sufficient numbers of the cream of our middle class manhood, and with the Militia provided for both as to numbers and quality by means of the ballot, our position would be as strong as could be desired so far as defence is concerned, always of course premising that our naval preponderance is maintained and that any loss of the command of the sea will be but temporary. That being so, what is the use of having anything more? There is no room for sentiment in the matter. All cant concerning the "Old Constitutional Force," "patriotic self-denial," and so forth must be disregarded, and the military machine relieved of superfluous parts which hinder rather than accelerate its working.

#### PART IV.

*A Discussion as to how far the Population of the Country should assist the Military Forces Reorganised as Advocated in Parts II. and III. in a War of the nature with which this Essay deals.*

If all this be true, if indeed a considerable portion of our military forces is redundant for the purposes of our pacific policy, what then

remains for the people at large to do in the way of furthering the defence of our islands or of the Empire? Well, there is not much. The military experts would say: "Having fixed the size and organisation of your Army, and having satisfied yourself that you have got it, sit down calmly and leave it to do the rest without let or hindrance." The best thing the layman can do is to keep quiet and not hamper the Army by mischievous interference, however well meant. Above all things keep the Press under control. All the indications derived from the manner in which manœuvres and even our small campaigns are reported lead to the apprehension that at such a crisis as an invasion the War Office and the commanders of the forces operating in the field would come in for much irresponsible, hysterical criticism that would go far towards paralysing their action, whilst their plans would be thwarted or deranged by the untimely publication of announcements or conjectures concerning their movements and intentions. No doubt the proclamation of martial law would soon put a stop to all this; but it is doubtful whether any Ministry would consent to this measure in the free and irresponsible Great Britain of to-day.

However, there is one way in which the civil population might prove of great service. As already said, one of the chief requisites of our field force will be extreme mobility, and it is suggested that this mobility could be furthered by organising in every county a sort of auxiliary or second line supply and transport body. It is not intended that it should take the field or even work on the lines of communication, for which the field force itself would provide, but that it should be employed in conveying supplies and stores to such centres as might be indicated by the general commanding in anticipation of their being required there. For example: An invader lands on the Lincolnshire coast, and it is decided to oppose his advance by taking up a position on the Wolds. The heads of the local auxiliary transport in South Lincolnshire, in Leicestershire, and in Nottinghamshire are instructed to at once bring forward to the line Boston-Tattershall-Lincoln-Gainsborough all the tinned meat, flour, groceries, and cattle that they can collect. It is of course impossible to go into details here concerning a hypothetical situation, but the exact place to which supplies should be brought and the quantities would be communicated to each local head. The further work of distributing the supplies and conveying them from these bases to the front would be performed by the Army Service Corps, which, however, would have been saved an immense amount of labour and of wastage in horses and in energy by the civilian auxiliary organisation. To carry out this plan all that is needed is:—

1. The registering during peace time of the names of persons possessing carts, traction engines with trailers, or motor cars, willing to act as carriers.
2. The appointing of a recognised head in each locality, if possible a retired officer of the Army, to whom all orders on the subject of the furnishing and forwarding of supplies would be directed.
3. The registering of the names of all business firms, farmers, millers, etc., willing to furnish supplies, and of the maximum quantities that could be furnished in each case on a sudden call.



4. In districts where the railways would probably prove useful for forwarding these locally-collected supplies, the registering of names of men willing to act as an auxiliary railway *personnel* for the loading and unloading of trucks.
5. The registering of suitable buildings in the various towns which could be hired as stores for supplies thus collected.

Here is an opening for the 150,000 odd Volunteers with whom it is proposed to dispense to show their patriotism. There is already in existence a corps bearing the title of the Engineer and Volunteer Railway Staff Corps, boasting of an imposing list of lieut.-colonels and majors who no doubt would be glad to have some subordinates to deal with. In this simple manner outside help could be effectively offered to the field force in the only manner in which it is likely to need assistance.

There seems to be no necessity for organising an auxiliary intelligence organisation from among the civil population, that important branch of the Army having recently undergone sufficient development. This does not of course refer to the occasional hiring of civilians for the carrying out of some specific object, such as of the master of a fishing-boat to look out for hostile war-ships on some particular stretch of water, or of a postmaster or constable to report the number of the enemy's troops passing through a certain village or town. But outside these minor services the department is ample for the work it would have to perform, and the more self-contained the Army is and the more it is allowed to carry out its various functions without extraneous assistance the better.

One other useful task could be entrusted to the civil population: Should this country be invaded, it cannot be gainsaid that a very great rise in the price of food stuffs would immediately take place, whilst on the other hand the dislocation of our trade and industries will throw many men out of work. The result will be much distress and discontent just at a time when least desirable, and when the armed forces of the country will not be available for the suppression of any disorder. The knowledge of this might encourage the mob in some of our large cities to rise and to coerce the Government into making terms with the invader with a view to the restoration of their cheap loaf. In order to anticipate such a possibility, an adequate number of citizens of standing should be enrolled as special constables, and properly organised. It is a question whether a signalling organisation might not usefully be established in connection with our seaports, coast towns, and adjoining districts. If each town or townlet had its permanent squad of signallers trained in military methods of signalling and accustomed to working from previously selected stations, useful information concerning an invader's movements, from the moment his ships hove in sight until the field force came into touch with him and assumed its functions, could be passed along, and his place of disembarkation reported to the local Volunteers and other troops in the sections more promptly than by any other means. The Coastguard would of course be on the look-out for hostile ships; but that body has no ready means of communicating with the military authorities, and it is therefore desirable that the latter should possess their own independent organisation for looking out for the enemy and reporting his movements. It would be the duty of the Volunteers

during their training to make themselves acquainted with the positions of the various signal stations within their district, whilst directly war was declared, or was even imminent, the signallers would be expected to man these stations and to be ready to transmit all information obtained. Plenty of young men in our small towns and villages could find both time and opportunity for learning military signalling, and the larger the number in the vicinity of each post the lighter the demands upon each individual, since the larger would be the number of reliefs that could be formed.

With this the modest tale of the help to be demanded from the general population seems to be exhausted. No doubt a more heroic or showy part would be to the taste of many in this country of busy and self-confident amateurs, who are ready to assume with a light heart the command of armies, the control of fleets, or the management of a railway system or other gigantic undertaking; but hitherto no institution has suffered more from the curse of amateurism than the Army, and only now is the nation awakening to the fact that militarism is an art in itself like everything else, not even excepting the digging of a potato plot.

We are given over to admiration of the Japanese military system, past and present. We would therefore do well to bear in mind one of their proverbs, viz.: "A smattering of military tactics is the cause of a great defeat." However enthusiastic and well-intentioned civilian assistance may be, it should not be required by, and can scarcely be of value to, a properly organised and well-trained Army. The nation can best help the Army by offering it its confidence and its sympathy, by taking it seriously, and by emancipating it from the baneful influence of time-serving politicians, who make it the plaything of their hobbies and their ambitions. At present the man in the street cold-shoulders the Army and affects to despise it, forgetful of the fact that if it is not all that it should be, he alone is to blame. He dare not treat the Navy thus, for he feels, or believes, that he depends upon it for his safety. Now that the idea of the welding together of the Navy and the Army and of their close co-operation is to the front he will have to become convinced of the almost equal importance of the land service, and to alter his attitude towards it. That done, he need have no apprehension as regards the future. A little real patriotism on his part and a little real self-sacrifice, not so much in gold (although even that is grudged now) as in flesh and blood, will give Great Britain as adequate and efficient an Army as she can desire, and will render the latter as popular with the flower of the youth of all classes as it is now the reverse.

It seems necessary before concluding to reiterate emphatically that the writer of these pages has strictly confined himself to the making of proposals which he deems adequate to meet the situation with which this essay has to deal, viz., a war with one or more *Naval Powers*, and that they are in no way supposed to be sufficient for the far greater and more serious task of defending our possessions against those military Powers who bid fair to become our opponents in the near future. Few people in England seem to realise that we have in Asia and in North America extensive land frontiers coterminous with those of two Powers who both have the best of reasons for wishing to humble us and to wrest from us our possessions. In Asia, it is true, we at present pin our faith upon a buffer State and upon Russia's

supposed disablement; but the most superficial acquaintance with the world's history should convince us that buffer States are a delusion, and that they must sooner or later be absorbed by one or other of their mighty neighbours, whilst there are good reasons for believing that Russia is stronger now on the frontier of Afghanistan than she has ever been before. As for the United States, it would indeed be blindness not to recognise that her militarism is steadily growing, that she begins to feel her destiny, and that she is already casting greedy eyes upon her weaker neighbour—Canada.

If the United States decide to adopt a system of universal compulsory military service, in respect of the defence of our possessions in North America, to what a state of impotence will our Army be at once reduced? And in the face of the present state of public opinion in America, to say that there is no prospect of her doing so is merely to close one's eyes to possibilities. If, then, we recognise our obligation to defend India, and to protect Canada, we must be prepared to act with something more than a mere handful of troops, backed up by a few hundreds of thousands of ill-trained auxiliaries, to convey whom to the scene of war would be to paralyse much of the trade and industry of the Kingdom. We have not a big enough available Army at present to make even a battle such as the war recently raging has accustomed us to. And yet one of the combatants, Japan, has a population of only one million more than that of the United Kingdom, and has no colonies upon which to call for assistance.



## SECOND PRIZE ESSAY.

*Subject:—*

“IN THE EVENT OF WAR WITH ONE OR MORE NAVAL POWERS, HOW SHOULD THE REGULAR FORCES BE ASSISTED BY THE AUXILIARY FORCES AND THE PEOPLE OF THE KINGDOM?”

*By Major H. R. MEAD, 116th Mahrattas.*

*“God helps them that help themselves.”*

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## PART I.

*An examination of the different tasks which the Regular Forces might be called on to perform in the eventuality of war.*

BEFORE commencing to discuss the subject proper of this essay, it is necessary to have a perfectly clear conception of the tasks which would be laid on the Regular Forces as the result of a naval war, and of the extent to which they would be able to secure the accomplishment of these tasks by their own unaided efforts.

It is evident that the nature of the tasks which the Regular Forces might be called on to undertake would vary with the power of the naval combination arrayed against them and the degree of rapidity with which our own Navy could establish its supremacy and secure the command of the sea.

The course of events in any naval war in which we may be engaged may be roughly tabulated under the following heads:—

- a. Where command of the sea after a struggle which may be more or less protracted is definitely secured to us.
- b. Where the command of the sea is locally but definitely lost, and we have to remain on the defensive and gain time to collect our resources.
- c. Where the command of the sea is definitely lost as the result of protracted operations.

If we now carefully examine the work which the Regular Forces will be called on to perform under each of the different circumstances which I have enumerated above, it will then, I think, be possible to come to a conclusion as to the nature and extent of the assistance which would be required from the Auxiliary Forces and the people of the country.

*Case A.*

The length of time during which contest for supremacy at sea remains undecided is the determining factor as regards the amount of strain to which the Navy will be subjected; but I think it may be assumed that unless this period is so unduly protracted as to render the circumstances more appropriately described under the head of Case B, our natural advantages of position, in power of refitting and repairing ships damaged in action, of construction of new ships and material, and in natural reserves of seamen should be sufficient to pull us through the crisis without special or heroic measures becoming necessary.

Since it would be impossible for us to despatch an expeditionary force during the course of a more or less protracted struggle for the command of the sea, the question of the employment of the Army depends to a great extent on whether a hostile Power could or could not land an expeditionary army on our shores before it had actually secured definite supremacy on the sea. Mr. Balfour has publicly stated that owing to the improvements effected in modern torpedo-boats and in submarines, an enemy would not nowadays be able to land an invading army on our shores. This statement is based on a calculation made by Lord Roberts, that an army of approximately 70,000 men would be required to overcome the resistance which could be offered by the land forces normally maintained in England.



Such a statement made by a Prime Minister, in his capacity as President of the National Committee of Defence, and supported by the professional advice of the leading soldiers and sailors of the country, practically raises this question out of the regions of argument. At the same time, I propose to devote a short space to the consideration of some points connected with the subject.

Presumably, the gist of this argument lies in the fact that the landing of a force of this magnitude is an operation which, under the most favourable circumstances, must occupy such a period of time as to ensure that even supposing we were in the first instance taken by surprise, yet there would be sufficient time to enable submarines and torpedo-boats to attack the flotilla, and, disregarding the presence of the covering vessels, destroy at any rate so large a proportion of the transports as to render the attempt at invasion abortive.

Has it, however, been sufficiently considered that the Power which contemplated an invasion of England would have made a particular study of the difficulties involved in the operation, and might propose to evade them by the expedient of despatching a larger force than that calculated as sufficient for the purpose, and by dividing it up into several separate portions to be landed at different points on our coasts?

Supposing, for instance, 120,000 men were despatched simultaneously to land at 12 separate points, at a moment of profound peace, and when we were off our guard, would our arrangements be found so perfect that the various torpedo flotillas could be told off at once and the requisite information immediately communicated as to the directions in which each were to act? It must be remembered that the landing of 10,000 men from specially prepared barges would not be an operation which occupied much time; that these forces would be almost entirely composed of infantry, with a proportion of cyclists in place of cavalry; that they would be prepared to live on the country (hence no supplies except munitions of war would be required); and finally, that if a little more than half the forces which started managed to get safe to shore, the numbers said by Lord Roberts to be sufficient to break down our normal power of resistance would have actually obtained a footing and accomplished, perhaps, the hardest part of their task.

If reliance is to be placed on our flotillas of torpedo-boats and submarines to entirely prevent the possibility of an invasion, it is clear that the organisation of these portions of our naval forces must be brought to an extreme state of perfection. They must be so distributed as to be immediately available at each of the various points where their presence might become necessary, and there must be the most perfect communication between them and some central station, from which the orders relative to their action would be issued. In addition, our intelligence department must be strengthened and improved, whilst even in time of peace we ought to maintain cruisers fitted with wireless telegraphy apparatus for patrolling along the coasts of those nations which abut on our own shores, and from which invading armies might possibly be embarked.

It is clear that if we are capable of making an approximate estimate of the force which would be required to overcome the resistance we could offer under the present organisation of our forces, that the General Staff of such Powers as contemplate the possibility of an invasion have already made their own estimates, and, moreover, that

these estimates are revised from time to time as the conditions under which they are framed vary. Hence it follows that if at any time we were to greatly alter the effective fighting strength of the forces maintained in this country and available for the defence of the Kingdom, the result would be either (1), in case of a great increase, to compel such a project to be abandoned entirely; or (2), in case of a corresponding decrease, to reduce the risks of such an enterprise to a dangerous extent.

Although, as I have already stated, we should not ourselves be able to despatch an expeditionary force until we had secured the command of the sea, this by no means infers that the preparation of such a force could be postponed till there was an immediate prospect of its being employed; so far from this being the case, it would have to be—at any rate partially—trained, equipped, and organised in peace time, in order that its mobilisation might be carried out the moment war was inevitable, and its training completed during such time as the naval forces were employed in clearing the seas of the enemy's fleets and ships.

The necessity for an expeditionary force, whether destined to defend our distant land frontiers in Asia, Africa, or America, or to carry the war into the enemy's country, being prepared to act as soon as the road for its passage was cleared hardly requires to be insisted on.

In his speech dealing with the possibilities of invasion, to which I have already referred, Mr. Balfour dealt with the subject of our further military needs, and laid down the proposition that the problem of the Army is the problem of the defence of India. The main argument on which this statement rests is the fact that this problem of the defence of India is at once the most pressing and the most difficult that we have to solve; consequently the measures taken to provide and prepare the Army necessary for the accomplishment of this task will *ipso facto* provide for any other contingencies which may occur.

Here again is an authoritative statement which raises discussion on this point above ordinary criticism, and I shall not therefore waste time in speculating upon such possible eventualities as might necessitate the employment of a portion of our strength in other directions—simultaneously with the actual performance of the task of defending India.

We will, however, briefly examine such of his propositions as refer to the conditions under which the campaign will have to be carried out, and to the strength of the forces which will have to be employed.

Mr. Balfour admits that the whole question of the defence of India has been placed on an entirely different footing from of old, by reason of the construction of the Russian strategic railways. At the same time he asserts that owing to the intervening territory of Afghanistan it is not conceivable that large bodies of troops should come into collision at an early stage in a war between England and Russia. "No surprise, no rush is possible. India cannot be taken by assault." He regretted he was unable to estimate either (1) in what numbers and within what limits of time Russia can concentrate her armies at her railheads, or (2) with what rapidity the railway can be pushed on to accompany the Russian armies.



The military correspondent of the *Times*, in an article entitled "Parliament and Imperial Defence," dated 15th May, 1905, shows that Russia has delivered 510,000 men, 93,000 horses, and 1,000 guns into Manchuria in the space of 11 months, and points out that these numbers were conveyed by a single line of rail, which, commencing with the delivery of only four trains a day, gradually increased the amount to twelve; further, that at the start Russia was caught *en flagrant delit de concentration*, and was compelled to transport 350,000 tons of stores simultaneously with troops, which should have been collected at the railhead previous to the commencement of hostilities.

The *Times of India*, in the course of three leading articles, dated respectively 25th, 27th, and 29th April, relates, through the medium of a capable special correspondent who had traversed Russian Central Asia during the course of the previous cold weather, that "whilst the attention of the world has been concentrated on Manchuria, Russia has been quietly, steadily, and persistently pushing forward preparations of an unusual nature in Central Asia."

"Every one of her centres from Sarakhs to Osh is an armed camp. She is steadily accumulating supplies. The trains which run across the Steppes from Orenberg to Tashkend bring soldiers; none ever come back."

Mr. Balfour proceeds to quote Lord Kitchener's views as to his requirements during the first year of the war, which Mr. Balfour acknowledges must be a long and protracted one. These are, in addition to drafts, 8 divisions of infantry with corresponding strength of the other arms. Roughly speaking, this would mean reinforcements totalling approximately 130,000 to 160,000 men; and we may calculate that Lord Kitchener would then have available for operation a force of a quarter of a million, including the Indian garrison, but excluding the obligatory garrisons of stations in India.

I propose for a short space to compare these proposals with the measures actually adopted by the Japanese during the course of the first year of their struggle with Russia.

The legitimacy of such comparison is hardly open to question, for:—

1. Japan's need of Korea for the future development of her trade, and as an outlet for her surplus population, is surely no greater than our need of India.
2. Russian facilities for the invasion of Manchuria along a single line of railway were surely no greater than those she now possesses with regard to Central Asia.
3. The Russian troops which will be set free at the conclusion of this war, the end of which is already in sight, and, indeed, is daily getting closer, will be veterans, who, though they have consistently suffered defeat at the hands of the Japanese, have by now most surely been moulded by their misfortunes and their experiences into a very formidable antagonist for us to tackle.

The following statement gives, as far as I can gather, the number of troops which we actually know that Japan has put into the field during the first year of the war:—



The war commenced on 8th February, 1904.

The strength of the Japanese forces at this time were:—

7,850 officers and 333,000 men, capable of expansion on mobilisation to 530,000 men, 1,400 guns, and 103,000 horses.

Date.	Port of disembarkation.	Commander.	Strength.
1904.			
March 8th ..	Chemulpo ..	Kuroki ..	18,000 with 36 guns.
April 30th ..	Yoghampo ..	Kuroki ..	40,000 " 65 "
May 5th ..	Pitsewo ..	Oku ..	40,000 " 120 "
May 19th ..	Takushan ..	Nodzu ..	50,000 " 120 " 4
June 26th ..	Port Arthur ..	Nogi ..	35,000 " siege "
July 6th ..	Port Arthur ..	Nogi ..	35,000 " " " 4

The strength of the Japanese forces in the theatre of war at the termination of different convenient periods may be more clearly shown as under:—

At the end of 1 month .. ..	18,000 men and 36 guns.
2 months and 3 weeks .. ..	58,000 " 101 "
3 " .. ..	98,000 " 221 "
3½ " .. ..	148,000 " 341 "
4¼ " .. ..	183,000 " 341 "
5 " .. ..	218,000 " 341 "

Besides these numbers, which we know were landed, other troops must have been brought up at different times and escaped the notice of the *Times* correspondent, from whose statements these data have been culled, for we know that at the time of the battle of Liao-yang (August, 1904) the Japanese had 200,000 men and 700 guns opposed to the Russian army under Kuropatkin, whilst there were at least 100,000 men in front of Port Arthur.

Later on, at the battle of Mukden, 19th February, 1905, or just one year from the commencement of the war, they had, according to the *Times* correspondent, in his description of the fight, dated 25th April, 1905, 16 divisions, averaging 25,000 men each, or a total force of at least 400,000 bayonets and sabres; and it must be remembered that although this includes reinforcements from the force released by the capitulation of Port Arthur and the reserves under Kawamura, it does not include troops on the lines of communications.

This statement, which rather minimises than exaggerates the numbers of troops which have been despatched from Japan to the seat of war, shows clearly enough that the whole of the troops which were provided under her military organisation were brought into the field during the course of the first year of the war.

The events of the war are so recent as to render any recapitulation of the great results obtained with them unnecessary; but we may profitably speculate upon the difference in the situation which would now be presented, if the Japanese had confined their efforts to such as would be equivalent to the very moderate proposals of the head of the British Government.

Since Mr. Balfour has given no clue as to the times at which the reinforcements would be despatched, we are compelled to make some assumption; and since there are 8 divisions to be despatched, we will presume that the first division leaves within two months of the commencement of war, and the remainder, division by division, at intervals of one month.

We will also allow that the army available at the start is equal in strength to the field army at present in India, or, approximately, 160,000 men.

Taking each division as 16,000, we should have available at the end of—

2 months .. .. .	116,000	In 3 months .. .. .	132,000
4    "    "    "    "	148,000	"    5    "    "    "	164,000
6    "    "    "    "	180,000	"    7    "    "    "	196,000
8    "    "    "    "	212,000	"    9    "    "    "	228,000

We have shown that the Japanese in a little over six months had 200,000 men and 700 guns to oppose Kuropatkin at Liao-yang, at the same time as they were investing Port Arthur with another 100,000, *i.e.*, they had at least 72,000 more troops in their field armies at the end of six months than would have accumulated in a year under the proposals which have been submitted by our rulers. We must also take into consideration that these numbers were exclusive of lines of communication troops, and were available in the field, after deducting the losses which had occurred in the course of six months' strenuous fighting, during which the battles of the Yalu, Nan-shan, Telissu, Tahsi-chao, and the innumerable actions of the Motien-ling, Fenshue-ling, and Tae-ling passes had all taken place.

Surely no further argument is required to prove that the plan of campaign initiated and carried through by the Japanese during the first year of the war would have been impossible with these restricted numbers. Their efforts would have had to be confined to the occupation of Korea and the defence of its frontier; it is even doubtful if the investment of Port Arthur would have been possible. The whole moral effect which has resulted from the offensive character of their campaign would have been lost, and even granting that they had succeeded in holding their own, they could not have made any appreciable advance in the direction of the termination of the struggle, and would now be liable to find their credit and their resources failing under the prospect of an interminably drawn-out campaign.

The defence of India is an almost exactly parallel case. Restriction in numbers means a restricted policy, and a purely defensive campaign.

Are the words of Carnot to Jourdain any less true to-day than when they were written? "What you must do," he writes, "is to induce the enemy to fight a great and decisive battle, in which he will be exterminated—to seize him and press upon his rear. May fortune preserve you from adopting a defensive attitude; the courage of your troops will be weakened, and the audacity of the enemy will increase beyond measure."

Though the last few words are generally applicable to all wars, yet at the same time they have a peculiar weight and force when applied, as we are now proposing to apply them, to a war on the Indian Frontier. This war must, from the very nature of the conditions under which we hold India, be an offensive one.

It is surely unnecessary to labour this point. The Indian Army is a purely mercenary one; they are faithful to their salt as long as we are the undisputed masters of the country and the source from which all their hopes of pay, pension, and reward are drawn. Let doubts of our position assail them, and can we expect them to fight for us and for our Government? They are not actuated by patriotism as we understand it. Centuries of foreign rule have accustomed them to the idea of an alien Government, and why should they discriminate between that of the British and any other Power? We may be sure, then, that the views which have been ascribed to Lord Kitchener have been expressed in relation to certain fixed enquiries from the Prime Minister, and are strictly limited, not to what he would ask for if he had a free hand, but to what could be reasonably guaranteed under our present organisation.

We will accept them, then, as representing the minimum reinforcement which would enable him to hold Russia off during the first year of a war, which must inevitably compel us to change our whole attitude in relation to the methods of raising and training our forces.

In what light, again, are we to consider Mr. Balfour's warning with regard to Afghanistan?

"It ought," he says, "to be considered an act of direct aggression upon this country that any attempt should be made to build a railway in connection with the Russian strategic railways within the territory of Afghanistan. Such action would be the heaviest blow directed at the very heart of the Indian Empire that we can conceive. If Russian strategic railways are allowed to creep closer and closer to the frontier which we are bound to defend, then this country will inevitably pay for its supineness by having to keep on foot a much larger army than anything which any of us can contemplate with equanimity."

Surely the Government, represented by the Prime Minister, do not contemplate such a policy as anything but a temporary expedient.

"We are bound," as the correspondent of the *Times* remarks in an admirable article of 15th May, "to consider that the isolation of India from Central Asia, which must result from this policy, will practically have the effect of shutting India out from avenues of trade which may, and indeed must, become of increasing importance as times goes on. Is this policy of seclusion, this shutting down of the Indian oyster, a policy which is desirable, or even possible, if we have regard for the best interests in the future of a Continent containing 300 millions of people?

"As a purely temporary measure, an expedient to bridge over a period during which we should reconstruct our Imperial forces on modern lines, this monastic impulse offers advantages which we neither deny nor decry. . . . But that it can be long-lived as a policy, or stand as a fundamental axiom for the Government of India, we venture to doubt. There is nothing in the theory of reclusion on a level with the grandeur of the Empire, with its needs or its resources."

The various measures which we could take with the object of reasserting our supremacy, after the infliction of a local defeat, would consist of:—



*Case B.*

1. Bringing in squadrons or ships from distant localities, where for the time their presence would be less urgently needful.
2. Bringing our reserves of ships and men into use.
3. Repairing ships damaged in action.
4. Building new ships.
5. Training and entering fresh men.

These measures divide up naturally under the respective heads of:—

1. Those connected with the renewal of the *matériel*.
2. Those connected with the renewal of *personnel*.

In the May number of "The Nineteenth Century and After," Sir William White discourses on the subject of whether our reserves of war-ships are sufficient. His view is that the latest orders of the Admiralty, relative to the disposal of the majority of our battle-ships and cruisers, as soon as they become through the ordinary lapse of time obsolete as regards the requirements of modern war, have been carried out to excess. He states that all naval Powers retain and keep in repair their old ships, and instances Germany as an example. He points out that both Russia and Japan were at the termination of the first period of the war glad to avail themselves of the services of obsolete vessels to replace such as had been lost in action.

The question as to whether the *matériel* or the *personnel* will suffer most in the naval wars of the future is an important one, as on the correct solution of it depends whether our present naval reserves are adequate to supply all our possible needs.

At the same time, it is not an easy one to decide, since there is no case in modern naval warfare—if we except the present Russo-Japanese conflict—where the struggle for naval supremacy has been so drawn out as to test the relative importance of reserves of men and ships.

Although for all practical purposes the naval war between Russia and Japan is definitely concluded, and we are at last in a position to grasp the main facts of the struggle, and to estimate the losses in *matériel* and *personnel* which have occurred during the course of it, yet it is too early to attempt any elaborate or detailed summary, with the idea that the solution of this problem will become clear to us in the process. At the same time, a rough examination of the results of the fighting and of the main factors which contributed to them may, if we remember to make due allowances for such special circumstances as are peculiar to this particular campaign, afford us some sort of a clue to the answer we are seeking.

In the case of Russia, it is comparatively easy to gauge the damages. Stated quite baldly, they amount to (1) the total loss of two complete fleets, ships and crews; (2) the loss of one of her only two bases in the Pacific; (3) the certainty of the eventual loss of the other. It is much more difficult to appraise what losses the Japanese have sustained owing to the strict and successful censorship which they have maintained. It might be imagined that, now the naval power of Russia has been irretrievably broken, it would be no longer neces-

sary for the Japanese to maintain secrecy regarding the main facts of the struggle; yet it would be wrong to imagine that the statements which are now being issued with such apparent candour can be implicitly relied on.

One of the fruits of victory which the Japanese are not likely to throw away is the power of more or less accurately determining the chief lessons of the war, and of retaining this information for their own exclusive use. If, however, all details are allowed to become public property, no particular advantage will accrue to the Japanese, since other Powers will then be equally capable of deducing these lessons from a basis which has become common to all.

The comparative losses in *matériel* and *personnel* is a case in point; hence, though in the absence of other information we are compelled to accept the Japanese statements, we can only do so with a certain amount of mental reservation.

The following ships have been reported as lost:—

*First Phase (up to capture of Port Arthur).*

Battle-ships.—“Hatsuse,” “Yashima.”

Protected cruisers.—“Yoshino,” “Saiyen,” “Miyako.”

Gun-boat.—“Kaimon.”

*Second Phase (battle with Baltic Fleet).*

Destroyers.—“Akatsuka,” “Ashama,” “Hayatari,” “Atago.”

Cruiser.—“Takasago.”

Three torpedo-boats.

Though it is not likely that the Japanese have been able to conceal the loss of battle-ships or of large cruisers, it is almost certain that many of the smaller craft, such as destroyers, gun-boats, and torpedo craft, have been left out in the above list.

As regards *personnel*, it is very difficult to estimate the losses with any degree of accuracy.

The losses of ships in the first phase were all—with the exception of the “Yoshino,” cruiser, sunk in collision—occasioned by mines. The sudden nature of this form of catastrophe would, it may be presumed, invariably cause a large loss of life. Hence we shall probably be rather under than over the mark if we estimate that 50 per cent. of these vessels’ crews, or some 2,500 men, were lost.

In addition, we have to reckon the losses in the operations connected with the attempts to block up Port Arthur (unknown), the casualties which occurred in the naval actions:—(1) Battle of Port Arthur, estimated as 191; (2) Admiral Kamimura’s action with the Vladivostok squadron (not stated, but necessarily insignificant); (3) Battle of Sea of Japan, given as 800.

On the whole I am inclined to guess that the loss in *personnel* may possibly have amounted to the equivalent of the loss in *matériel*, i.e., that we may estimate the total Japanese losses as represented by the wiping out of a fleet of the strength of that given above.

We must not, however, forget to take into consideration the fact that the Japanese have already succeeded in salvaging the “Varyag” and the “Bogatyr,” that they are fairly confident of recovering some at least of the ships from Port Arthur harbour, nor that they made

several captures in the fight off Tsushima Straits. The *Times* gives: 2 battle-ships, "Orel" and "Imperator Nikolai I.," 2 coast-defence ships, "General-Admiral Apraxin" and "Admiral Senyavin."

Unquestionably they will in a short time be in a stronger position as regards *matériel* than they were at the commencement of hostilities. If, therefore, there was a prospect of the struggle having to be continued, their prime necessity would be for additions to the *personnel*.

Before we can accept any conclusions based on the experiences of this naval campaign as capable of general application, we must note the special conditions under which it took place, and mark how far they differed from the normal.

Russia throughout laboured under the disadvantage of having to wage war at the greatest possible distance from her home naval base. She was inadequately provided with bases in the actual theatre of war, and possessed no coaling stations on the lines of communication. The immediate result of these disabilities was that she was incapable of bringing the whole of her naval strength to bear at one time, and was consequently liable to be beaten in detail.

The Russian naval service had few traditions behind it, it was regarded more as a luxury than as a necessity. Though vast sums were spent on the *matériel*, the *personnel* was neglected. Since there was no sea-faring population to draw on, the crews were composed of landsmen, who, under the terms of conscription, were forced to serve their country on the sea, in place of the land; they had no natural aptitude, and were wanting in zeal and knowledge of their duties.

No naval manœuvres ever took place, so the senior officers were without experience.

Russia had not developed her manufacturing powers sufficiently to be able to build all her own ships; she therefore resorted to foreign builders, who undoubtedly provided her with a number of individually powerful vessels; but as they all differed widely in design, her fleets were wanting in homogeneity.

On the other hand, the Japanese had the benefit of actual war experiences to guide them. It is true their ships were built abroad; but they did not commit the mistake of entrusting their construction to several different sources, but gave the whole of their orders to the great shipbuilding firms of Great Britain, thus securing uniformity in design.

The *personnel* were drawn from a true sea stock, their training was thorough, and their *morale* excellent.

Lastly, circumstances favoured them to the extent that the war took place in the immediate vicinity of their home waters.

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In short, the Russo-Japanese War teaches us clearly what to expect when efficiency is pitted against inefficiency, and the results are only surprising in so far as they are even more decisive than we should have expected.

The true moral to be drawn from the experiences of this war, for our own particular application, is the absolute necessity of making efficiency the first consideration. We can be satisfied with nothing less than the very best *matériel* which our workshops can produce; whilst as regards the *personnel*, we must clearly recognise the fact that numbers cannot possibly compensate for want of training; that train-



ing to be of any value must be carried out in time of peace and cannot be effective if left till war has broken out, in the manner attempted by the squadrons under Admiral Rojdestvensky.

### *Case C.*

The occurrence of *Case C* would necessarily bring about the loss of our Indian Empire, the secession of our over-sea dependencies and colonies, and the decline of Great Britain to the position of a third rate Power. We are here concerned with the measures which should be taken to prevent the possibility of these disasters happening, hence we need not pursue this unsavory topic further.

## PART II.

### *A Summary of the Tasks Examined in Part I., and a determination of the Amount of Assistance that will be required by the Regular Forces.*

Our next task is to sum up the various duties which we have lightly sketched out above, to work them out in greater detail, and to consider how far the Regular forces can be relied on to carry them out. It will be convenient to deal with the two great divisions of the Regular forces separately, and to consider the duties which they will each be called to perform in the order in which they are likely to occur.

As regards the senior service, the outbreak of war may well prove a most critical period. It is then that there is most chance of our being surprised; our fleets may possibly be attacked in harbour before they are mobilised; and it is then, if at all, that there may be danger of an invasion being attempted.

Some of the measures which should be taken on our part have already been detailed in the early part of this essay. These belong to the province of the Navy proper; and it is only reasonable to suppose, that in accepting the decision of the Defence Committee, the Admiralty will, if they have not already done so, provide the organisation required to enable our torpedo and submarine flotillas to deal effectively with any attempt at landing.

Meanwhile, the mobilisation of the fleets will be proceeding; all reserves of ships will be brought into commission as rapidly as possible, for it will be vitally necessary to develop our naval strength as quickly as we can, so as to carry the war into the enemy's waters. It is probable that at this time there will be a certain number of war-ships built or building in this country to the orders of foreign Powers. These, together with our reserve squadrons, improvised cruisers, hospital-ships, mine, repair, and other auxiliary vessels, will require to be manned.

Sir E. R. Fremantle, in his lecture delivered at the Royal United Service Institution, the report of which is contained in the August, 1902, number of the JOURNAL of that Institution, asserted that:—

In case of war with a maritime Power, we should, in a few months, "have at least 250,000 men afloat, and at the present time we have, including all the reserves, but excluding boys in training-ships, etc., roughly 150,000 available."

This referred, of course, to the state of affairs as they were some 2½ years ago, but there has not been much appreciable improvement in the meantime.

The statement of the First Lord explanatory of the Navy Estimates for 1905-06, gives the following details regarding the strength of our reserves of all sorts at the end of 1904:—

Class of Reserve.	Ex-Officers.	Eng. Officers.	W. Officers.	Men.	Total
Royal Naval ...	1,586	352	25	29,538	31,501
Colonial ...	—	—	—	—	—
Newfoundland ...	—	—	—	511	511
Malta ...	—	—	—	344	344
Australia ...	—	—	—	148	148
Naval Vols. ...	—	—	—	3,053	3,053
Total ...	...	...	...	—	35,557

These added to our active service ratings give a total of approximately 160,000. If Sir E. R. Fremantle's estimate of our requirements is not an exaggerated one—the fact that it was generally accepted by the distinguished audience collected in the theatre of the R.U.S.I. is sufficient to guarantee its correctness—it is clear that some provision must be made for supplying the 100,000 extra *personnel* which will be required at the outbreak of war, and in addition such reserves as will be necessary to keep up the strength during the course of the struggle.

Sir E. R. Fremantle's proposals for obtaining the extra men consist of: (1) Establishing a royal fleet reserve of 50,000; (2) Enlisting 25,000 Naval Militia gunners; (3) Procuring 25,000 Royal Naval Volunteers. The establishment of a Royal Fleet Reserve implies an alteration in the conditions of service of the whole of the present *personnel*; and since this proposal was unanimously vetoed at the discussion, on the grounds that quality is even more important than quantity, an argument the truth of which we have shown to have been firmly established by the experiences of the Russia-Japan War, we are compelled to eliminate this source of supply, and to look around for some other.

If we examine the various proposals put forth by different naval officers and speakers who took part in the discussion which followed the lecture, we shall find the main sources of supply suggested come under one or other of the following heads:—

1. Training young boys for the Mercantile Marine, as well as for the Navy; the Navy to have a lien on their services in time of war. (Advocated by Sir Charles Dilke, Admiral Sir J. C. Dalrymple Hay, and the Hon. T. A. Brassey.)
2. Volunteers, from the industrial centres and sea coasts, should be organised and registered in time of peace. Also Colonial Volunteers. (Advocated by Admirals Sir D. Morant and Sir N. Bowden-Smith.)
3. Army to be called on to assist, as its services on land could not be required so long as the Navy was employed in gaining the mastery of the sea. (Advocated by Mr. Thursfield.)

4. National service. (Advocated by Admiral Sir N. Bowden-Smith and Hon. T. A. Brassey.)

Special stress was laid by several of the speakers on the special difficulties regarding the supply of executive officers, engineer officers, stokers, and other special ratings.

This much at any rate appears clear enough, that the Navy will, at outbreak of war, require assistance to secure the augmentation of the *personnel* to the extent of some 100,000 men, and that a certain proportion of this number will necessarily consist of specialists. I do not propose at this point to examine the various sources enumerated above; it is probable that no one particular method would of itself completely satisfy our needs, and that the best results would be obtained by a judicious combination of them.

As soon as the fleet has been mobilised it will be required to put to sea; and in order to permit of this, it is essential that the defences of the coaling stations and naval stations should be provided for; in the cases of foreign stations the garrisons will necessarily be drawn from the Regular forces, but in the case of home ports, auxiliaries will be required to supplement them.

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As regards *matériel* for the Navy, our position is undoubtedly a strong one.

We maintain the largest Navy in the world, and the system we employ for the division of the work of construction, partly amongst Government yards, and partly amongst private establishments, is an excellent one, for it ensures that the latter have always a sufficiency of work on hand to make it worth while to maintain the expensive machinery in a thoroughly up-to-date condition. In addition, these private manufacturers are encouraged to tender for the supply of *matériel* of war to such foreign nations as have not the power to manufacture the whole of their own requirements, and thus secure for ourselves (1) The power of enhanced output, whenever a sudden call may demand it; and (2) The certainty of being able to take over at any critical moment a number of ships, and a quantity of other war *matériel* which is always under construction to the order of other Powers.

The foresight of our progenitors has secured to us the most complete communications with our foreign possessions, and our rulers have not neglected to fortify coaling stations and bases in proportion to our needs. Our fleets in time of war will, therefore, have the advantage of always acting within reasonable distance of their sources of supply; whilst if damaged in action, the means of repair will be close at hand.

We may, then, reasonably leave the question of *matériel*, with the assurance that our position is a sound one, and that the nation is alive to its responsibilities.

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Accepting Mr. Balfour's dictum that the problem of the Army is the problem of the defence of India, we will now proceed to enquire how far the Regular forces we maintain will be able to help towards its solution, and to what extent the Auxiliaries can be relied on to co-operate.

The numbers of the Regular forces are shown in the statement relating to the Army Estimates of 1905-06, presented to Parliament



by the Secretary of State for War as 221,300, exclusive of the Army in India. Allowing, however, for a reduction of 17,000, which was contemplated, and adding 70,000 for the British garrison in India, we get a total of approximately 275,000.

The distribution of the above is not given in this statement, but the following is correct enough for our purpose:—

In Ireland ... ..	30,000
In Colonies (including South Africa) ... ..	80,000
In India ... ..	70,000
At Home ... ..	95,000

In addition there are some 90,000 Army Reserves, which would join the colours on declaration of war.

The proportion of the above, from which an expeditionary force based on the United Kingdom would be drawn, would consist of the 95,000 men at Home, plus the 90,000 reserves.

From these, however we must deduct recruits, young soldiers, harbour defence troops, such as garrison artillery, submarine miners, etc., or, at a very moderate computation, 30 per cent, say 35,000 men, leaving a force of approximately 150,000 men.

For the moment we will have regard merely to the reinforcements which Lord Kitchener has estimated as necessary during the first year of a protracted war on the Indian Frontier.

These we have shown to consist of 8 divisions, plus the ordinary yearly drafts, or in other words, from 130,000 to 160,000 men. Hence we are compelled to acknowledge that if the Regular Army is to be relied on exclusively to supply these reinforcements, it will be completely used up, together with the whole of its reserves, during the first year, and that the possibility of a continuation of the struggle will depend entirely on the numbers, efficiency, and organisation of the Auxiliary Forces. We will now turn to an examination of these sources of supply.

The strength of the various component parts of the Auxiliary Forces are given in the Statement of the Secretary of State for War, which I have already referred to as:—

	Men.
Militia - - - - -	88,282
Volunteers, 245,217; but these are to be shortly reduced to - - - - -	200,000
Yeomanry - - - - -	25,217
<b>Grand Total - - - - -</b>	<b>313,499</b>

With regard to the efficiency of the Militia, the Secretary of State for War remarks:—

“It is obvious that if the Militia is to be used for service abroad it must undergo a longer period of training than at present, and must be provided with a larger number of trained officers.”

#### *Volunteers and Yeomanry.*

It must be remembered that the men composing the Volunteer forces are drawn from various classes of the population, many of which would not be available for service out of the United Kingdom. In the event of war we should not therefore be able to rely on

them as organised bodies. As was the case in the South African War, numbers would doubtless volunteer for service as individuals, but they would have to be organised into fresh units before they could be sent out.

Organisation thus initiated at the last moment has already proved inadequate to the stress of war, as is shown in the Report of the Commission on the South African War, p. 75, para. 138, where it is stated that:—

“The Yeomanry did not in any case act in the field as the regiments in which they were originally formed. In many cases they did not arrive in South Africa as regiments, and the squadrons thus parted did not come together again. Squadrons belonging to different regiments, with officers strange to each other, were mixed together, and in fact, the whole force was used as a mass of mounted troops of a plastic character, who might be distributed in squadrons in any way that appeared most convenient. In the case of the second contingent, all idea of county organisation was lost. . .”

Another and even more serious defect arising from this same composition of the Volunteer forces is the uncertainty that must always exist as to the numbers which could be relied on for service out of the United Kingdom.

The only indication we possess to guide us in this respect is contained in a statement in the Report of the War Commission, which shows the numbers which were actually obtained during a crisis in our history which called forth a large amount of the latent patriotism of the people:—

Composition	Officers	Infantry & M.I.	Total
Yeomanry	1,393	34,127	35,520
Scottish Horse	15	818	833
Volunteers	589	19,267	19,856
South African Con- tingent (Colonial)	19	7,275	7,254
Grand Total			63,463

Of these, approximately 17,000 comprised the second and third contingents of the Imperial Yeomanry, who were only induced to serve by the grant of a rate of pay which would be absolutely prohibitive in any war of the magnitude of that we are considering.

The total numbers which we could absolutely rely on obtaining out of a paper force of approximately 275,000 works out then at the low figure of 50,000.

The author of the “*Times History of the War*” has a foot-note in the 3rd volume which gives the following significant figures:—

“Of the Militia and Yeomanry one man in five, of the Volunteers one man in fifteen, of the untrained and unorganised bulk of the male population of fighting age one man in a thousand came forward.”

*Colonial Contingent.*

The question of what resources might be obtained from our over-sea Colonies and dependencies at such a time of stress lies actually outside the limits imposed in the subject of this essay, and since the like uncertainty as regards the amount of dependence we can place on securing the services of any settled proportion of the forces they maintain exists in the same degree as with our own Volunteers, we will confine ourselves to the mere statement that, excluding the South African Colonial contingents, the actual number who took part in the Boer War was 30,328.

This much is clear enough, that we have no guarantee as to the numbers which the Auxiliary Forces would provide for service over-sea, and would be liable to suffer bitter disappointment if we counted on obtaining any greater numbers than came forward on the last and only occasion of which we have any experience. Hence with our present organisation, or rather in our present state of disorganisation, the utmost aid we could look for from the Auxiliary Forces would be some 170,000 men, composed of 80,000 Militia, 50,000 Volunteers, and 40,000 Colonials.

When we consider that no radical changes have been effected since the Boer War, that the defects which then came to light still exist, and that these forces will be deficient of artillery and transport, we must acknowledge that the Auxiliaries would prove but a broken reed to rely on in time of trouble, and that their potentialities bear altogether too small a proportion to their paper strength.

Up to now we have regarded the estimate furnished by Lord Kitchener as defining the extent of his requirements; but it is highly probable, to say the least of it, that the numbers he has given are based, in the first place, on our present capacity to furnish troops, and in the second place on the supposition that the first year of the war would, in consequence of this want of resources, have to be conducted on the defensive. If this supposition is correct, the total inadequacy of our preparations for war becomes *even more* painfully apparent. I do not propose to usurp the functions of the General Staff at home or in India, and attempt to work out the details of the operations which a war with Russia would entail. It will suffice for my purpose if I may assume that under somewhat similar conditions, similar efforts to those put forward by the Japanese will be required.

Working on these general lines, I append a statement which shows how a suitable programme of reinforcements could be arranged to provide a force at the termination of periods of 6 and 12 months respectively, approximately equivalent to those which were disposable by the Japanese commander at similar intervals.

It must, however, be borne in mind that the distances which these forces have to be transported to the seat of war are considerably greater than from Japan to Korea, or to the Liau-Tung peninsula, and that in the event of any naval opposition being offered, it would not be possible to adhere to any fixed dates for the despatch of the various contingents. This, however, would not affect the question of the preparation of the men, who would be trained, mobilised, and got ready to start according to the fixed time table:—



Within	2 months	32,000	Regulars.	
"	3	"	32,000	"
"	4	"	16,000	" 32,000 Auxiliaries.
"	5	"	16,000	" 32,000 "
"	6	"	16,000	" 32,000 "
"	7	"	16,000	" 32,000 "
"	8	"	16,000	" 32,000 "
"	9	"	nil.	" 48,000 "
"	10	"	nil.	" 48,000 "
"	11	"	nil.	" 48,000 "
"	12	"	nil.	" 48,000 "
Total ..		144,000	"	352,000 "

A scheme drawn up primarily with reference to our requirements on the Indian Frontier would have to be somewhat modified, if at a later period it became necessary to utilise it with reference to an expedition involving changes either in the times at which reinforcements were to be despatched, or in the relative strengths of the different contingents. Thus in case of the land forces being required to supplement the successful action of the fleet by the investment of the enemy's naval bases on the land side, or in the case of their being employed in a Continental war, to act in support of a Continental Power—our allies for the time being—against the communications of another Power, it is obvious that owing to the absence of any covering force of the nature of that we possess on the Indian Frontier, we should have to greatly increase the strength of the earlier contingents. At the same time we should be able to allow ourselves a greater margin of time in which to make our preparations, for within limits it would rest with us to decide when the blow should fall. In these cases the original programme would hold fast as far as the authorities concerned with the training, organisation, and mobilisation of the expeditionary forces were in question; the difference would be that the troops would be retained in the country until circumstances determined the most convenient periods for their despatch. The numbers which would be ready at any particular intervals can be easily determined; as an example the numbers available at the end of 6, 9, and 12 months are given in this subjoined table:—

	Regulars.	Auxiliaries.
After 6 months	112,000	96,000
" 9 "	32,000	112,000
" 12 "	Nil.	144,000
Total	144,000	352,000

#### SUMMARY.

We are now in a position to lay down definitely and in detail the extent to which the Auxiliary Forces and the people of the Kingdom should be prepared to assist the Regular Forces.

Our requirements are:—

#### *Naval Forces.*

1. At the outbreak of war, 100,000 men to expand the Navy to full war strength and to man the various auxiliary vessels which will be required to act with the fleets.

2. Militia and Volunteers are required to supplement the Royal Garrison Artillery for the defence of our home naval bases.

*Land Forces.*

3. At the end of 3 months, a first contingent of 96,000 men to be mobilised and trained to take part in over-sea operations.
4. At the end of 6 months a further contingent of 112,000.
5. At the end of 9 months, a further contingent of 144,000.
6. In support of these contingents, the power to draw on the trained manhood of fighting age, in order to keep the field armies up to strength and to provide for any further contingencies.

This conception of our requirements may at first sight appear to be an exaggerated one, but it is based on the unquestioned fact that times have altered since special circumstances permitted of an English army of the old type holding its own in the Iberian Peninsula; and it may be conceded materially affecting the issues of a Continental war.

At the present day we are ourselves a Continental Power, and the responsibilities attaching to this position cannot be shaken off. The military correspondent of the *Times*, in a series of articles dealing with modern war, sums up aptly for our purpose in the following words:—

“Alliance or dalliance may stave off the evil day, but history shows those who refuse the sword must renounce the sceptre, and that nothing can save a country from defeat at the hands of an ambitious neighbour save the power, and general acknowledgment of the power, to defend itself with vigour.”

## PART III.

### PROPOSALS.

We have now arrived at what we must candidly admit is by far the hardest part of our task. It is comparatively easy to point out that our present system is inefficient; it is a much more difficult matter to show how its faults can be remedied, or how it can be altered to suit our needs.

We have devoted a certain space to an examination of our Auxiliary forces, and have come to the conclusion that neither the Militia nor the Volunteers can be relied on to effectively supplement the action of the Regular forces.

It is important to differentiate between them, as regards the reasons why they respectively fail to furnish us with what we need.

The Militia fail for want of sufficient training, and of sufficient trained officers. Its failure is really more due to want of encouragement and supervision than to any defects in its organisation.

On the other hand, the Volunteers have in times past received their full share of encouragement; it is only since the Boer War that official coolness has begun to be manifested. Their failure to justify their existence as a substitute for a national army is due to defects

inherent in their constitution; and to the failure of the authorities to realise their limitations, until the test of war brought them so prominently forward that they were patent to the man in the street.

It has before now been suggested, notably by the Earl of Wemyss, in an article entitled, "The Military Situation," which appeared in the January number of the *United Service Magazine*, that "the enforcement of the ballot for the Militia would solve all difficulties, place our military forces on a solid foundation, and save the War Minister the further toil of building military castles in the air."

There are, however, objections to the enforcement of the ballot for the Militia in its entirety, the chief of which are:—

1. That the ordinary life of the people would be unnecessarily interfered with.
2. That the burden of military service would be unevenly distributed.
3. That it would be conducive to militarism.

Accordingly the Earl of Wemyss advocates the modified form, which would make every youth on attaining the age of 20, liable for that one occasion to the ballot, if he were not at the time serving in the Volunteers, or in some branch of the King's service.

No doubt this modified form of the ballot would be successful in filling the ranks of the Volunteers, and possibly of the Militia; and doubtless the conditions of service as regards training might be made more strenuous, and more conducive to efficiency; but the inherent defects of the Volunteers would not be eradicated, their organisation would still be unsuited to our requirements, which we have conclusively proved to include liability to service in any quarter of the globe, and an organisation adapted to these conditions.

I have spoken of the failure of the authorities to grasp the limitations of this force, viz.: that they are incapable of furnishing any organised body of troops. Their *raison d'être* is to provide a school of arms where the citizen may acquire a knowledge of drill and shooting, without being compelled to abandon his ordinary occupation. It is only by bearing these limitations in mind that we can hope to make use of this force, and yet avoid falling into the mistake of allowing it to usurp a position for which it is radically unfitted.

The form in which the subject title of this essay is worded distinctly implies that the intention of the framers was to elicit schemes for the improvement of our present organisation for creating a reliable reserve from our existing resources, rather than by the abolition of such as might be considered unsuitable to our present requirements, and the substitution of other methods. Besides this, the Volunteer force undoubtedly furnishes a convenient alternative method of imparting instruction in military duties, an important consideration which cannot be lightly discarded.

Hence we are induced to consider whether it is not possible to eliminate the defects whilst retaining the advantages which its existence affords.

The following rough outline of a scheme will show how I should propose to secure the assistance required from the Auxiliary forces and the people of the Kingdom in such a manner that implicit reliance could be placed on its being available when required:—



1. The liability of the citizens of a State to give their services in return for the benefits they enjoy as citizens must be fully recognised.
2. To fit them for the performance of these military duties they are bound to undergo a course of military training.
3. Under our constitution, the normal training would consist of a period of service in the old constitutional force, the **Militia**. But it is recognised that if this liability were universally enforced, a large proportion of the population would be violently divorced, for the time being, from their normal occupations, with consequent dislocation of trade, etc.

Our insular position gives us an advantage over our continental neighbours, in that we should have a greater margin of time in which to complete our organisation and training, and we may legitimately take this into consideration in forming our scheme for national defence.

4. It is important to minimise, as far as possible, the dislocation of civil life, and it is quite possible to do so by the adoption of two measures:—
  - a. By arranging that a portion of the military education should be given concurrently with ordinary education, before entry into civil life.
  - b. By granting all citizens the option of obtaining the further proficiency and knowledge of their duties which it is considered they should possess, either by a course of consecutive training in the **Militia**, or, if this is found to be inconvenient, and to interfere unduly with their civil life, to secure an equivalent amount of instruction in the **Volunteers**.
5. In any case, whether the training has been carried out with the **Militia** or the **Volunteers**, the citizen must be borne on the strength of the **Militia Reserve** for the whole of the period during which liability extends, and must join them on mobilisation being ordered.

It is clear that the War Office does not possess the machinery which would enable it to control either the education of the youthful citizen, or the business of his enrolment and subsequent training. As regards the first, control must be exercised by the same authority as that which at the present time secures attendance and instruction at Board Schools. Its scope will have to be somewhat extended, so as to secure that the voluntary schools, public schools, and other institutions, which at present are outside its influence, may be brought within it. This should not be difficult; the establishment of licences for all classes of schools would provide the means by which the inclusion of a fixed standard of proficiency in drill, physical training, and musketry could be made compulsory in the upper, upper middle, and lower middle, as well as in the lower classes.

The business of enrolment would naturally be placed in the hands of the local authorities; at the head would be the County Council; under them the various District, Urban, and Parish

Councils. The latter would be charged with the preparation of lists of all the young men as they became of an age to serve.

We might well adopt a similar plan to that which is in force in Germany: Annual local boards, composed of one or two of the more prominent citizens, the vicar, and the medical officer of the parish, with one military officer deputed by the War Office might be assembled at fixed dates to examine all young men and to settle definitely whether they were fit to serve.

Those selected would be called on to state what branch of the Service they had a fancy for:—(1) Army and its branches; (2) Navy or Marines; (3) Naval Volunteers or Harbour Defence Volunteers; (4) Militia or Yeomanry; or whether they would do their compulsory course of training with the Militia or Volunteers. As far as possible, subject to the report of the Board as to their qualifications for particular branches and to the needs of the State, the selected recruits would be eventually posted according to their inclinations, and in due time would receive notification of the place and date of joining. These measures, it will be observed, secure us the inestimable advantage that all recruits, whether for the Regular Forces or the Auxiliary Forces, would all commence their training at a fixed period. The connection between the Regular and Auxiliary Forces would be strengthened, and there would no longer be that want of sympathy between the people and the Regular Forces which unhappily exists at present.

A scheme of this nature could naturally entail some changes in the constitution of some of our established forces; but except in the case of the Volunteers, they would not be of a radical nature.

The Navy should be unaffected by the changes, as its recruits would still be taken as boys, and would therefore be quite separate from the other levies, even though they might be conveniently brought before the same Board.

As regards the Army, the principal results of the scheme that we can make sure of consist in a general improvement in the class of recruit, improved facilities for training, since they would all join at the same time, and, in short, a great improvement all round.

The Militia would benefit in like manner. Its staff of instructors would of course have to be enormously increased in order to cope with the addition to its numbers.

The Volunteers alone would be radically altered; the mere recognition of its *métier* being limited to the provisions of a school of arms would do away with the desirability or necessity for its possessing any further organisation beyond that of the company. Its development in the future would be along the lines of a number of local clubs, all affiliated to one another and all providing the means of securing military instruction and fostering emulation in rifle shooting.

It is now time to define with a little more exactness the details of the liability to military service which we should propose should be exacted. These are (in addition to the compulsory military training undergone as a portion of the early education at school):—

1. During the first year: To undergo three months' training with the Militia, or to carry out an equivalent number of drills and musketry with the Volunteers, and to be borne on the roll of the Militia Reserve as the third contingent of troops for service.

2. During second year: To undergo six weeks' training with the Militia, or the equivalent with Volunteers, and to be borne on the roll as the second contingent for service.
3. During the third year: To undergo same training as in the second year, and to be borne on the roll as the first contingent.
4. From the fourth to the tenth year: To be borne on the strength of the general reserve for the Militia, not to be liable to be called out till the three contingents above referred to have been previously mobilised, and then to come up in batches according to the year of entering this reserve; also to fire an annual course of musketry.

The proceedings of the Royal Commission on the Auxiliary Services has shown that the numbers annually arriving at a fighting age are, roughly, 190,000. Allowing 40,000 as the number annually required for the Army and Militia, 15,000 for the Navy and Marines, and 5,000 for the Naval Volunteers and Harbour Defence Volunteers, we find that there are, approximately, 130,000 available as recruits for the National Army.

After this system had been in force for 10 years we should have in addition to the Regular Army and its reserves, and the Militia as it at present exists:—

- 130,000 as a first contingent.
- 130,000 as a second contingent.
- 130,000 as a third contingent.
- 910,000 as general reserve.

The scheme would of course entail the provision of very large numbers of rifle ranges, and also of large numbers of officers and subordinate ranks as instructors to supplement those at present available.

As regards the provision of rifle ranges, it must be borne in mind that many of the difficulties which at present exist would be modified, or disappear, when it was a case of the local authorities arranging for the ground and rights to fire over it, for the use of the local people themselves, and no longer that of an alien War Office, with an imaginary purse of Fortunatus behind it, to be bargained with and got the better of. Probably the maximum length of range required would be 300 yards, whilst in exceptional circumstances, such as in restricted areas, miniature ranges would be permitted.

The liability to fire an annual course of musketry up to the tenth year of service would probably have the effect of inducing many to join the Volunteers, or to retain their connection with it, between the 4th and 10th years, in order to secure the privileges of the club life and comradeship, in addition to the use of the range, to which, of course, they would in any case be entitled. In this case it would be worth considering whether it might not with advantage be made a condition of membership to attend a certain number of drills, whereby the State would secure extra proficiency at but little extra cost.

The provision of an ample number of men of good quality with sufficient training, and knowledge of their weapons, to ensure their



rapid conversion into efficient soldiers when necessity demands it, is, however, only one step towards the solution of the problem of a National Army. We have yet to consider how they are to be officered, how they are to be organised, and how provided with the due proportion of artillery, cavalry, and non-combatant branches.

#### OFFICERS.

Officers who are to command Englishmen in the field, who have to gain and hold their respect, must be what we call gentlemen, but in these days of modern war they must also possess a real knowledge of their duties, and be capable of imparting instruction. It would be impossible to provide professional officers in such numbers as will be required for these additions to our military strength.

The burden of compulsory service must be laid on all classes alike, but all are not required to shoulder the musket. Those who by birth and education should naturally lead provide the raw material from which the officers of the national army should be drawn; but social position is not sufficient of itself; they must be satisfied to accept *noblesse oblige* as their motto, and qualify themselves by study and hard work before they can hope to be allowed to serve as leaders of their fellow citizens.

Either nominations to commissions by the Lord-Lieutenants of the counties, or some such system of boards as has been lately introduced into the Navy, with a preparatory qualifying—not competitive—examination, to eliminate those whose education proved defective, would secure candidates of the right sort. A course of six months' training at the Militia Depôt, where a special staff of instructors should be maintained, would, if they gained satisfactory certificates, be a sufficient qualification for a commission in the Militia or the Volunteers. They would be required to serve for a term of 10 years, 6 years as lieutenant and 4 years as captain. The numbers of commissions granted would be in strict proportion to the numbers of men raised, say 3 per cent.

Although this National Army would be completely divorced from the control of the War Office, the department of the Inspector-General of the Army would be charged with the task of its inspection, whilst the officers of the instructional staff, as well as all the higher ranks above that of captain, would have to be drawn from the Regular Army.

The need for a large reserve of officers has always been recognised; but the difficulty of providing employment for them in peace time has, up to the present, proved a barrier to its establishment which we have been unable to surmount. There are many signs, nowadays, which point to the fact that the class of professional officer is changing. The calls on the professional officer are daily getting more severe, both as regards the actual work and also as regards the obligations to foreign service. Numbers leave the Service at an age when they are still capable of work, because they are unlucky in promotion, or unwilling to go abroad, or have sufficient private means to permit their early retirement. Many of the above would be glad to get employment; they have stayed too long in the Army to successfully start any fresh

way of earning their livelihood, and are often wanting in resources within themselves for pursuing a life of ease. The services of many could be obtained at a very small expenditure of money for the duties of instructors or inspectors of Volunteers, the certainty of fixed employment at home being a sufficiently powerful incentive to attract them.

These inspecting officers of Volunteers would have the supervision of the local Volunteer Clubs within a specified area. They would require to be more or less permanent, in order to obtain the local influence necessary to the efficient performance of their duties.

The following scale might be found workable:—

1. After 6 years' service, commission as junior major in Volunteers and an appointment as second-class district inspector.
2. After 12 years' service, commission as senior major and appointment as first-class district inspector.
3. After 18 years' service, commission as lieutenant-colonel and appointment as second-class county inspector.
4. After 24 years' service, commission as colonel and appointment as first-class county inspector.

Officers might be appointed to this department at any one of the periods above specified, *i.e.*, they might come in at 6, 12, or 18 years' service; they would all be retired at the age of 50.

For the Militia force, the system of seconding officers would probably be found more convenient. There would be two classes of officers required: (1) Instructional Staff at the depôts for the recruit officers and men; and (2) A number of majors to command double companies, and lieutenant-colonels to command groups of four double companies. Appointments to the Instructional Staff might be made from lieutenants and captains, whilst the regimental appointments might be given to seconded captains and majors respectively for periods of 5 years at a time.

The Army would also have to furnish a large number of subordinate instructors for both the Militia and Volunteers; these would be taken from reservists and pensioners, as also would the men required to look after the various ranges and appliances, and to teach elementary drill and shooting in the educational establishments, so that the problem of giving employment to old soldiers would be in a fair way to solution.

#### *Provision of a Proportionate Strength of Cavalry and Artillery.*

Mounted services are always popular; there should not therefore be any particular difficulty in procuring sufficient numbers to volunteer for training with the Yeomanry. These would form the cavalry of the National Army. The Yeomanry are, generally speaking, organised on a county basis, and the addition of the annual levies formed into separate squadrons would expand the force without deranging it. Each 3 or 4 extra squadrons would be made a separate regiment of the County Yeomanry.

Riding schools would have to be established in each county where aspirants to the cavalry branch could learn equitation.

The system by which the Swiss cavalry are provided with horses would be an ideal one for our adoption. It is thus described in a Report on the Militia of Switzerland, which was prepared in 1900 and presented to President M'Kinley, of the United States of America:—

“A man wishing to serve in the cavalry must bring a certificate from an official of his commune setting forth that he is financially able to buy and take care of a horse, or he must bring from some responsible persons a guarantee that the necessary charges and expenses will be paid.

“The horses which are bought by the Government for the use of the cavalry are valued by a Commission. . . .

“The cavalryman buying a horse pays one-half the sum thus set as the value of the horse, and receives each year from Government one-tenth of the sum thus paid, so that at the end of 10 years he has received back all that he has paid, and is owner of the horse.

“When not engaged in military service he takes the horse to his home, and is permitted to use him for riding, driving, or working.”

*Artillery.*—Such a highly technical body of troops as those required to man our field or heavy batteries could not be obtained from the national levies alone.

The only feasible plan would be to increase the establishment of the Regular artillery, and to maintain sufficient cadres of batteries, which could be rapidly expanded on mobilisation by the addition of large reserves and of specially selected men from the national levies. These last would have selected this branch of the Service at the time of their enrolment and have been trained yearly with batteries of the Regular Army.

### *Organisation.*

Organisation would be naturally on a purely territorial basis. The Regular Army would, as regards infantry, gradually become territorial, in fact as well as in name, and would gain enormously as a result; county *esprit de corps* would be firmly established, and would have great influence in the direction of securing a good class of recruit and in providing a healthy supervision over their behaviour whilst in the ranks.

The Militia would have to be distributed amongst counties in proportion to the population; but since it is already established on a county basis, this would not probably involve any very radical changes. The yearly levies which joined the Militia as 1st, 2nd, or 3rd contingents would be separate from the ordinary Militia, and would be organised into companies under the National Army officers, whilst, as already explained, there would be one major to each double company and one lieutenant-colonel to each group of four double companies, obtained from the Regular Army.

The Militia Artillery contingent would join the batteries of the Regular Army to which they had been assigned for training.



The organisation of the Yeomanry would be practically unchanged, but might be extended so far as to include the formation of brigade commands and staff from the Regular Army.

No attempt would be made to give the Volunteers any organisation for war.

*Naval and Coast-defence Volunteers.*—The organisation of these forces would be under the orders of the Admiralty, and quite distinct from that of the land forces.

As a general rule, the *personnel* would be drawn from the coast population, and inland counties would be only affected to the extent that some of the special ratings, such as mechanics, electricians, and possibly engineers, would probably have to be drawn from the great manufacturing districts in the Northern and Midland Counties. Special arrangement would have to be made by the Admiralty for securing their services at the time when they became liable to service. For these special districts a naval member could be appointed as an additional member to the Boards convened for the examination of youths on arrival at the age of liability.

It is further likely that the Admiralty would find it necessary to establish schools in these centres for naval engineering and the other special branches.

#### *Mobilisation.*

Mobilisation would proceed along the same lines as the organisation; the levies who had been trained with the Volunteers would proceed to the county depôts, together with the Militia-trained levies, and would be furnished with arms, accoutrements, and uniforms from the supplies stored there. They would have their own company officers and would be accompanied by certain of the district and county inspectors for the higher commands (D.C. and battalion commanders).

Three months' training would be at once commenced; one month would be devoted to company drill and musketry under the orders of the D.C. commanders, and one month to battalion work; they would then be formed into brigades, under the brigade commanders and staff, which would have been previously appointed by the Army Council; and at the end of another month should be fit for embarkation or for whatever duty they might be required.

#### *Non-combatant Services.*

*Transport and Supply.*—If the argument I have used at the commencement of this essay in respect to the possibility of invasion is based on correct principles, it stands to reason that the existence of a National Army would of itself do away with the entertainment of any idea of invasion by foreign Powers. In any case, the net-work of railways in the United Kingdom would enable troops and supplies to be concentrated in any part of the country where they were required. Hence only first line transport would have to be arranged. This would all of course have been settled beforehand by the Army Council, who would have the preparation of all the schemes, both for home defence and for over-sea expeditions.

If the defence of India was in question, the transport and supply would be the care of the Indian Government as soon as the troops had landed. In all other cases the Army Service Corps would be

expanded and worked on the lines which have already proved so generally satisfactory in South Africa.

*Medical Services.*—Qualified medical practitioners and other of subordinate positions could be secured by excusing these classes from the obligations of military service in consideration of their professional services being placed at the disposal of the nation for the period of, say, 10 years.

#### *General Remarks.*

I have not up to the present touched on the question of the expense involved in the working of the scheme which I have put forward. Mr. Arnold-Forster produced figures which purport to prove that any scheme of compulsory service would add so enormously to the Army Estimates as to render the idea impracticable.

Mr. H. W. Wilson (author of "Ironclads in Action"), in an article in the *National Review*, of September, 1904, shows conclusively that many of the assumptions on which this statement is based will not bear examination. For instance:—

1. Mr. Arnold-Forster put the numbers of the annual levy at 380,000, whilst the Royal Commission on the Auxiliary Forces showed that the numbers of physically fit men who would annually become liable to service is only 190,000.
2. Mr. Arnold-Forster assumed a rate of pay of one shilling a day an extravagant amount.
3. He arbitrarily assumed that the pay of the Foreign Service Army would be doubled.

In the absence of any clue to the numbers of men who would elect to do their annual training with the Militia and Volunteers respectively, it is impossible to make any accurate forecast as to the cost of the scheme I have put forward. I therefore confine myself to putting forward certain considerations which tend to show that the cost would in reality be within reasonable limits.

In the first place, the essence of this idea of compulsory service is that it is due to the State for value received. Hence there is no question of the State being in competition with the labour market, or, indeed, of being required to provide pay as opposed to subsistence during the actual period of training.

The Militia levies would receive rations and be billeted or put under canvas, and a subsistence allowance of 3d. to 6d. a day would probably be ample.

On the other hand, the Volunteer-trained levies would be serving in a manner which suited their own particular needs; they would receive the usual capitation allowance in aid of club expenses, and would be refunded any expenses they might be put to for travelling, but would not receive any pay.

In addition, I would propose that that portion of the male population which did not contribute their personal services should pay a capitation fee, as is done in the case of the Swiss Militia; this would go towards paying the expense of the training of the remainder.

So far from the expenses of the Regular Army being increased by the adoption of compulsory service, it is safe to assume that once it was accepted and in working order, the establishment of the Regular Army might be safely reduced. There would be no longer any necessity for keeping a large standing Army at home; its duties will be



confined to supplying the drafts for the Foreign Service troops, to providing a nucleus on which the National Army would be formed, and to carrying out minor expeditions, strictly limited in scope.

It must be admitted that the establishments of officers and of the artillery would have to be greatly increased; but it is reasonable to assume that the economies would more than counter-balance this extra expenditure.

In presenting this scheme I have found it necessary for the sake of clearness to introduce a certain amount of detail on such points as (1) The length of the period during which the liability to service should extend; (2) The amount of training which should be given. Strict adherence to these details is not of course either expected or desired. They might be varied to a considerable extent without affecting the general principles on which the scheme is founded. These principles, with the possible exception of that which relates to the abolition of a war organisation in the Volunteers and the substitution of a club basis, are none of them new. At the same time, I am not aware that there has previously been any attempt made to combine the convenience of the Volunteer system of training during spare moments with Militia organisation.

The retention of the Volunteers in the general system of military education of the nation is absolutely dependent on the adoption of this or some similar plan, otherwise they will in the future, as in the past, prove to be a stumbling-block in the path of progress. Under these circumstances, although these innovations may have effects which we cannot clearly foresee, yet we may at the same time assume that the patriotism and common-sense which brought the Volunteers into being, and which has since guided its influential leaders, will induce them to afford their support to its gradual adaptation to suit fresh circumstances.

That ugly word "conscription" is responsible for much wild talk in connection with the subject of national defence.

Conscription is taken to mean that the youth of the country will be torn from their homes and their occupations, herded together in barracks, and deprived of any feeling of individuality.

The institution of compulsory service on the lines I have advocated does not imply the infliction of any of these hardships, whilst it equally secures the advantages which the adherents of conscription would claim for it. Yet it is freely said that the people would not stand it. The truth is, that the pros and cons of this subject have never been laid before them by any responsible Government of the day, and they have never yet been called on to vote for or against the adoption of the principle of compulsory service.

The adoption of a system of compulsory training by the people of the United Kingdom would in time naturally lead to its adoption by our self-governing Colonies. Then follows the possibility of federation in respect to Imperial defence and the application of the principle of mutual support in the defence of our interests in every quarter of the globe.

Then also the Committee of Defence and the General Staff of the Army, freed at last from the "interminable labour of building military castles in the air," will be able to prepare for all eventualities with clear understanding of the resources which they will have at their disposal, and the nation will be able to rest assured that

"GOD HELPS THEM THAT HELP THEMSELVES."



## THIRD PRIZE ESSAY,

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*Subject:—*

“IN THE EVENT OF WAR WITH ONE OR MORE NAVAL POWERS, HOW SHOULD THE REGULAR FORCES BE ASSISTED BY THE AUXILIARY FORCES AND THE PEOPLE OF THE KINGDOM?”

*By Major A. B. N. CHURCHILL, R.G.A.*

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*“Precept upon Precept, Line upon Line.”*

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### PART I.

BEING AN EXAMINATION INTO THE SOURCES OF THE ARMY'S TROUBLES.

IF speech or writing could place a nation's military organisation on a sound and solid basis, such good fortune should have attended the British Realm and Empire. A long and difficult war has revealed alarming evidences of weakness in our military organisation; the trend of European politics has for some years brought every thinking man face to face with the apprehension that the day may not be far distant when the Empire may be plunged into a conflict in which its very existence may be at stake. The urgent need for military reform is fully recognised; the anxiety of the nation is keenly aroused. Royal Commissions have been assembled and have laid the results of their labours before Parliament and the country; of official and unofficial programmes there has been no lack; Parliament has devoted no little time and labour to the consideration of this great national question, while in the Press discussions on the subject are endless. And what is the fruit? It is not too much to say that in spite of years of talking and writing, no definite programme has yet been put before the public which has received general assent and approval. It is not an exaggeration to go further, and say no programme has yet been put forward which has not at once evoked an active and powerful opposition.

The foregoing, however, only half states the question; as a matter of fact, the subject has been before the country upwards of 50 years. No sooner did it become clear that steam would supplant sails than fears were entertained with regard to the inviolability of our shores, to be renewed again during the meteoric course of the 2nd Empire, and to be again awakened with increasing force and fervour when, in a few short months, the armies of Germany overthrew the Napoleonic Dynasty and laid the great French nation in the dust.

It would not be accurate to say that these alarms produced no result; but it is quite true to say that each and every reform failed to give the nation a stable and efficient military organisation. In the intervals between the alarms, the nation has often been lulled into a sense of security; how false the feeling has been is evident by the lively apprehension which has arisen whenever any event has occurred portending an appeal to arms.

No nation has been more solicitous for its military forces; no nation has discussed them more; no nation has spent more to obtain what it requires; and no nation has reaped from its efforts a more barren harvest than the British nation. If this picture is not too highly coloured, one may be pardoned feelings, if not of despair, at least of grave misgiving as to the utility of adding still further to its redundant literature on this subject. It seems almost presumptuous to attempt to deal with a subject on which our greatest Statesmen, our most distinguished soldiers, and the most trusted counsellors of the nation would have appeared to have laboured to so little purpose. It seems almost as if the nation were destined to muddle on, and in times of stress muddle through; and that unity of aim and endeavour in regard to matters military is unattainable. Surely during all these long years of Royal Commissions, Parliamentary debates, and discussions in the Press, all that can be said has been said, and that more than once.

If, however, this is true, it may not be unprofitable to attempt to discover and to trace those causes which have prevented any real progress being made.

It is desirable in the first place to take a brief survey of the situation. What are the foundations of a "wisely co-ordinated system of defence"? The fact has happily been fully grasped that "the Navy is the first line of defence, both in order and in importance," and as a result the Empire has a Navy worthy of the great trust committed to its keeping; but the country has only very imperfectly grasped the fact that "this by no means implies that there is or should be no other." The result is that there is much conflict of opinion on the vital questions: What are the functions of the Army, and at what strength should it be maintained to effectually carry out the duties imposed on it? The leaders of the nation are not unanimous; the public utterances of the Prime Minister and of the late Commander-in-Chief on this subject are irreconcilable. On the important question of invasion, the Prime Minister has stated that there is, and there has always been, a marked difference of opinion between sailors and soldiers.

Again, expenditure has naturally always been the most important factor. . . . At the present time this question has become acute. Never has public expenditure on the Army and Navy been so high in peace time as at present; local taxation and expenditure have never before been so onerous; the existing resources for raising the public revenue seem to have reached finality. The reform of the basis of taxation is a coming political question. What a powerful lever such a state of affairs to those fertile and gifted writers who, like the Athenians of old, delight in some new thing, and who propound new theories in strategy and in the art of war; the brilliancy of their writings "splits the ears of the groundlings, but makes the judicious grieve"; and the text which adorns their tale is the old one of "robbing Peter to pay Paul."

That the expenditure on the Army and Navy is almost ruinous is true; that the nation does not obtain full value from its expenditure on the Army, that it might spend less and obtain more, is scarcely questionable. But these are matters for administrators and economists, and not strategists. To change the fundamental principles of strategy in order to regulate expenditure is a sorry and a fatal device. Yet it is no less true that when money is tight—to use a current phrase—the Blue-water School is most in evidence in its crusade to aggrandise the needs of the Navy by belittling not only the needs but the very functions of the Army.

There is yet another disintegrating force at work. Possibly in no Services is there greater *esprit de corps* than in the British Army and Navy; but *esprit de corps* is intended for internal consumption, not external application; it is intended to stimulate to high ideals, not to incite to jealousy and aggressiveness. It is a national calamity that there is so much official jealousy and mistrust between the Navy and the Army. Much has been done in recent years to remove this defect, but still more remains to be done to efface it. And working in close alliance with this force is the jealousy peculiar to the Army. Long has it lived, long has it thriven. The words of Sir William Mansfield are surely as true now as when they were uttered years ago: "Numerous bodies of a military character, all pulling different ways, instead of co-operating in one great harmonious whole for the good of the nation." In the past few years the nation has heard much about "business methods," "centralisation," "decentralisation," and of "financial considerations which over-ride military requirements"; but the keynote to all such considerations is "friction."

Of friction as a force the country has heard but little. The great philosopher on war has written at much length and in great detail on this force "friction." In no engineering enterprise or mechanical agency can its activity be ignored; but in the military machine here in England we seem absolutely to ignore the existence of this ever present force, and we legislate and organise as if such force did not exist. It is the source of great and far-reaching mischief.

Efficiency can never be secured by methods which vest responsibility solely in the hands of one man and leave him absolutely dependent on the co-operation and goodwill of another. Either the one must be given the control of the means by which efficiency is to be attained, or both must share the responsibility. This truth has been lost sight of in many of our recent reorganisations, and dual control and divided responsibility is deeply implanted in our military systems. One may truly go further, and say in some cases that in not a few instances there is control vested on one side and responsibility on the other. Jealousy is the motive force, economy the lever by which such systems are produced. Human nature loves power but shuns responsibility.

Lastly, we are not a military nation; the public mind is not well educated on military matters. It evidently will fall an easy prey to plausible heresies; it manifestly is unable to judge between opposing experts; it naturally hesitates to decide between valued but conflicting leaders.

If, therefore, at the commencement of our investigation it appeared passing strange that the British Empire has so long and so earnestly laboured in vain to establish her military forces on a satisfactory and



secure basis, the further stages of the enquiry must not only have dispelled that surprise, but have given place to the conviction that no lasting results can ever be attained until unanimity is arrived at on certain clear and very simple, though very vital, issues, and that no real progress can be made until official life is so ordered as to produce zealous and harmonious co-operation.

The vital issues on which the nation must make up its mind before it can hope for an efficient Army may be summed up as follows:—

1. Is an Army needed at all, except to garrison fortresses, constituting the bases and lines of communication of the fleet, and to provide expeditionary forces against half civilised neighbours, and to secure India?
2. If so, what are its functions?
3. At what strength must the Army be maintained, whether the answer to (1) be in the negative or the affirmative?
4. Whatever the reply to (3), how is an Army at such strength to be created and maintained?

On these four vital but simple questions much conflict of expert opinion exists, and to still further confuse the public mind, many false issues by able naval and military writers have been raised, obscuring first principles and alluring the mind to lose itself in side issues.<sup>1</sup>

To arrive at a just appreciation of the situation, to discriminate between the wheat and the tares, to rivet the enquiry to elementary truths, no more profitable study could be undertaken than that set forth in the subject of our present essay. But before we proceed to a detailed investigation of our subject, a clear and concise reply will be given to the question already asked: What are the foundations of a wisely co-ordinated system of defence? And the answer shall be given not by a soldier, but by a sailor.

“A wisely co-ordinated system of defence does not contemplate that every point is to hold out indefinitely. but only for such time as may be necessary for it to receive the support which the other parts of the whole are intended to supply. That the Navy is the first line of defence, both in order and in importance, by no means implies that there is or should be no other. This forced and extravagant interpretation, for which naval officers have been largely responsible, of the true opinion that a navy is the best protection for a sea frontier, has very much to do with that faulty strategy which would tie the fleet, whatever its power, to the home ports, and disseminate it among them. Navies do not dispense with fortifications nor with armies; but when wisely handled, they may save their country the strain which comes when they have to be called into play—when war, once remote, now thunders at the gates, and the sea—the mother of prosperity—is shut off.”

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<sup>1</sup> To disregard the teachings of experience, to cut loose wholly from the traditions of the past, to revolutionise rather than to reform, to launch out boldly on new and untried paths, blind to, or ignoring the difficulties to be met—such a tendency, such a school of thought, exists in every generation. At times, it gets the mastery. (“The Influence of Sea Power upon the French Revolution and Empire.” Vol. I., p. 38. Mahan.)

## PART II.

*Being an Examination of War in the Abstract and the Features and Factors special to a Conflict between Great Britain and Continental Powers.*

"In the event of war between one or more naval Powers." What is war? No Nation is more constantly at war than the British Nation; it is, however, no exaggeration to say that no Nation less realises what war in its fullness and in its intensity really means. After many years of the Napoleonic Wars we find Wellington writing in such terms as these:—"Then, indeed, would commence an expensive contest; then would His Majesty's subjects discover what are the miseries of war, of which, by the blessing of God, they have hitherto had no knowledge; and the cultivation, the beauty, and prosperity of the Country, and the virtue and happiness of its inhabitants, would be destroyed, whatever might be the result of the military operation."<sup>1</sup> Such is the difference between war in the enemy's country and an invasion. Great Britain for century upon century has been spared the horrors of invasion, and the nation does not realise, in the full acceptance of its terms, that "war is an act of violence to compel an opponent to fulfil our will"; that "violence arms itself with the inventions of art and science in order to contend against violence"<sup>2</sup>; that "self-imposed restrictions," almost imperceptible and hardly worth mentioning, termed usages of International Law, accompany it without essentially impairing its power."<sup>3</sup> It is not realised that "it follows that he who uses force unsparingly, without reference to the quantity of bloodshed, must obtain a superiority if his adversary does not act likewise."<sup>4</sup> The public do not realise "that there is no human affair which stands so constantly and so generally in close connection with chance as war"<sup>5</sup>; "that there is, therefore, everywhere a margin for the accidental; and just as much in the greatest things as in the smallest."<sup>6</sup> Even British Military education eschews the deep philosophy of Clausewitz into the realm of war in the abstract. It was Nelson, whose daring and whose skill attained the height of genius, who said: "Only numbers can annihilate"; and it was Von Moltke in his hour of triumph who exclaimed: "Once more I have learned that one cannot be too strong on the field of battle." If Great Britain is at war with one or more naval Powers, let it be clearly and very fully realised that either Great Britain has declared war in order to compel that Power or those Powers to fulfil her will, or else that that Power or those Powers mean to compel Great Britain to fulfil its, or their, will; and that to do so, all that science or art can lend to violence will be made use of, and that violence will "know no bounds."

<sup>1</sup> "Wellington Despatches." Vol. VII., p. 380. Letter to Lord Liverpool.

<sup>2</sup> "Clausewitz on War." Book I., para. 2.

<sup>3</sup> "Clausewitz on War." Book I., para. 2.

<sup>4</sup> "Clausewitz on War." Book I., para. 3.

<sup>5</sup> "Clausewitz on War." Book I., para. 20.

<sup>6</sup> "Clausewitz on War." Book I., para. 22.

The assumption will be readily granted by all Englishmen that Great Britain will never be the aggressor in such a war, that either she will be compelled to declare war to vindicate vital interests, or, and that more probably, such war will be declared against her by a Power or Powers who intend to crush her. Such a war would be a conflict of giants, such a war would shake Europe, and the whole civilised world to its foundations. It is, moreover, evident that the conditions and circumstances of the war would vary absolutely according as the opposing Power or Powers were European or not European Powers. But inasmuch as there are only two non-European naval Powers, and that we are in alliance with one, and on the most cordial and closest fellowship with the other, it does not appear to be either profitable or appropriate to indulge in any academic discussion of such a possibility. It is Europe which is full of disquiet and unrest, and it is to European Powers we shall confine our attention.

It is well to realise that no European Power or combination of Powers will provoke Great Britain to war without a reasonable expectation of being able to compel it to submit to its or their will; and that Great Britain has no chance of success unless she is able to impose her will on them.

A possible conflict between Great Britain and Germany has been likened to a fight between a whale and a tiger. The simile is apt and attractive. But if it is used to point to the conclusion that because a whale and a tiger cannot fight, therefore Great Britain and Germany cannot fight, the simile is over-strained. There are no naval European Powers whose military resources are not greater than their naval resources, and therefore, in any such war in which Great Britain is engaged, the simile between the whale and the tiger will, in a measure, hold good. It will be well not to forget it. Our adversary will not make war on the sea to suit the whale, he will conduct himself so as to make the conditions as little suited to the characteristics of the whale as possible.

A war, such as is now under investigation, will open either with Great Britain taking the offensive or assuming the defensive. There is no Power at present capable of challenging the supremacy of the British fleet; a combination of Powers might equal it, but considering the lack of homogeneity of allied fleets, the difficulties of concerted action, and the rarity of concert, even when strategical difficulties have been overcome, the probability is, that no probable combination will be able to assemble naval forces superior to those of Great Britain. The probability is that such contest will partake of the nature of the struggle between the whale and the tiger, rather than a contest between two evenly-matched naval adversaries. It would, however, be most unwise to ignore the possibility of being opposed by equal or even superior naval force. It is well to remember that it has long been the naval policy of the Empire to maintain a force equal to that of any two possible opponents, but that, owing to faulty administration, the naval forces have before now fallen well below such a standard, have before now, in such condition, been surprised by war, and the nation has had to pay the penalty.<sup>1</sup>

It will be convenient at this point to make a digression to draw attention to a very momentous consideration. In his enquiry into

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<sup>1</sup> *Vide* "Influence of Sea Power on History." Mahan, p. 523.



the theoretical conception of war, Clausewitz has enumerated certain extremes with reciprocal action. He shows how each adversary, and we may say would-be adversary, is led to strive after the extreme in order to obtain an advantage. We prepare for war in peace, the building programmes and Military Budgets of the great Powers conform to such forces as are noted by Clausewitz. The great Powers base their naval and military expenditure on those of each other, naturally, chiefly with respect to those of possible enemies. Such acts really are acts of war, though taken in time of peace, for they are vital elements of that unbounded violence which is to compel an adversary to do one's will. In the present day there are signs of the approach to the extreme as regards ship-building. The question is coming fast to the front as to how long Great Britain can continue to build, to maintain her traditional standard of superiority over the navies of European Powers, having regard to not only the growth of their navies, but of the wealth which renders such a growth possible.

Can Great Britain go on building indefinitely? Should she, if she could? By what resort could the swing of the balance be re-adjusted? Reference will be made to this point later on.

### *The Offensive.*

Great Britain on the offensive is in an unique position compared to other Continental Powers; the keynote of her offensive strategy is clear: It is to assert at once her supremacy at sea, and to sever her antagonists from communication from the world at large. Her aim must be to crush the opposing fleets if they put to sea, to confine them to their harbours if they flee thither for safety, and so destroy all their oversea commerce and capture all their Colonial possessions and markets. By so doing, in accordance with the measure of her success would Great Britain impoverish her antagonist and enrich herself. It is easy to realise that, if successful, the greater the maritime power of her foes the greater the loss inflicted on them. The immediate result would be accumulation of wealth and power to Great Britain and corresponding loss to her assailants. Would such a consummation alone suffice to bring the enemy to submission? If not, what conditions govern the continuance of the struggle? The sufficiency of the blow is entirely one of degree, dependent on the national characteristics and conditions of the enemy, which, though all-important, cannot be discussed in the abstract. It is certain that the realisation of such objectives would not strike with equal force nations like Russia and Germany. A nation like Germany, with Colonies and vast oversea commerce, would feel the stroke far more keenly than a nation like Russia.

It is a vital principle in the art of war that the objective should secure the ends in view. Otherwise success is ineffective, and the vitality of the adversary is unimpaired.

The subject must be pursued further: Assume that the loss of oversea Colonies and sea commerce, that severance from the world, will reduce our adversary to such an abject state that he will do our bidding; and assume, further, that we have driven his fleets within their harbours, and that his commercial flag is no longer seen on the seas, is it certain that the second involves the first? History shows that for various causes it only does so to a partial and qualified extent.

The situation has been considered only from the side of the offensive. The defensive will not be inactive. Despite the powers of numbers, a highly-trained, well-formed, and well-commanded Navy, such as it must be taken an enemy would possess, must not be recklessly encountered. Faulty dispositions by Great Britain might easily place her in temporary numerical inferiority; one disaster might render this permanent. There can be no wild rush to victory; but point and parry, feint and lunge in the obscurity of war and in the uncertainties of naval warfare. Many an anxious day and gloomy may be anticipated by Great Britain in such a conflict, even on the road to victory. The enemy will surely not fail to profit to the uttermost of the chances the fortune of war may place within his reach. Neither will he allow his commerce to slip straightway from his grasp because his fleets may no longer be in a position to protect it. Every effort will be made by means of the "neutral flag" to minimise the loss; every effort will be made to strain International Law to the disadvantage of the opponents. The losses and restrictions to which such a war must subject the neutral trade is a disturbing factor of great import—a disruptive force, which, in the hands of Napoleon, came near to crushing Great Britain. No one can predict the future. Everything depends on the special features and political conditions of the conflict; but in a war in which Great Britain makes use only of naval force, it cannot with certainty be affirmed that she could destroy the enemy's commerce, thus bringing him to terms. At any rate, such could probably in any case only be attained after a long and exhausting struggle. *Thus we see that, even in the case of sea commerce, the influence of sea power is not absolute; political action steps in to thwart it.*

#### *Political Action.*

It almost invariably happens in great wars, where the balance of power in Europe is at stake, that it is impossible for the smaller European States to remain neutral. If the political, geographical, and strategical conditions of these States are considered, the reason becomes evident. These smaller States owe their existence, in great measure, to certain valuable assets they possess, so valuable that the balance of Powers would be changed were a great Power to become their possessor, and so by mutual agreement they have been denied to each and every such Power; but when powerful nations are fighting for great ends, the disadvantages of such tacit abnegations press too heavily to be endured, and by one pretext or another these self-denying restrictions are evaded, to be again recognised when peace terminates the struggle.

Thus it has happened that in the past these small European States have often been the "Cockpit of Europe," and there is little reason to doubt that in this respect the past does but foreshadow the future. Necessarily the action of such States follows the line of least resistance. They side with the stronger adversary, unless he is unable to exert pressure on them; if the weaker can exert more pressure, then such State must lean toward that side, but in such case the contract is usually defective, and it will be found that the unity of the State is divided by opposing political factions. In a European war, Great Britain cannot afford to neglect such political



complications. She could not view with indifference the entry of such countries as, for instance, Holland or Belgium into the conflict; but unless Great Britain can effectually co-operate with such countries, and thus assure them their neutrality, it is not unlikely that she would have to face their hostility. The question, under certain conditions, is not dissimilar in the case of Powers such as Spain and Portugal. In the past, European complications in some form or other are characteristic of the wars in which Great Britain has been engaged. The more protracted the struggle, the greater the probability of such complications, and the more vital to Great Britain that such would not arise to her detriment.

The question of the neutral flag has already been referred to. Possibly no question is more likely to cause complications, such as are now under consideration, to arise than this. It is the tactics of the tiger when he fights the whale. The Navy shuts off the sea from the adversary and the adversary at once seeks for other outlets which the Navy cannot touch.

Napoleon manœuvred in such masterly fashion that though the French flag was swept off the seas, he forced Great Britain, exhausted by years of war, into a struggle with America. He could lay no claim to command of the sea, and yet he made his influence felt on the Atlantic. *The influence of the sea power has its limitations.*

It has been seen that a purely naval contest will probably be protracted, both on account of strategical and political considerations; and it is evident that naval action cannot necessarily meet all cases. Situations must constantly arise, which can only be met by resort to military force, and if Great Britain can exert no military pressure, she is exposed to all the disadvantages such a want imposes at a time when such disadvantages most prejudicially affect her interests. In the past, Great Britain has placed her own small armies in the field, and their fortune has been a chequered one; many a brilliant campaign can be recorded, but many disastrous expeditions must be taken note of. The past differs from the present inasmuch as the difference in numbers between Great Britain's military force and those of Continental Powers is much greater now than formerly, and consequently Great Britain is at a greater disadvantage now than at any previous period in her history.

To compensate for her military weakness, and thus ward off dangers and disadvantages resulting from such a position, Great Britain's Statesmen have always endeavoured, and with marked success, to effect alliances with a Continental Power. To such alliance she has always contributed much treasure, and as a rule troops in addition. The enormous expenditure thereby involved has been recently drawn attention to, and the question has been asked, whether the interests of the nation would not have been served better had the money expended in contributions to other nations been expended in perfecting and developing her own military forces. It is a consideration of great moment, but one which, if carefully considered, must give rise to much variety of opinion. Even if Great Britain were a great military Power and able to stand alone, she would be seriously handicapped if she could not fight in some one else's country. It is a matter of supreme moment to the strategical aspect of the campaign, if Great Britain can obtain a footing in the country of an



ally, in place of being forced to establish her base in that of the enemy; and if, as was the case in the Peninsular War, the configuration of the coast permits combined military and naval operations, the advantage is doubled. Wealth is a vital force in this game of unbounded violence, and it by no means follows that it can be replaced by troops. It was the wealth of Great Britain freely spent in Europe which enabled nations crushed by Napoleon to recover themselves and re-assert their strength as rapidly as they did. It can scarcely be contended that reinforcements of British troops would have had a similar result. A happy mean would seem to be the most judicious policy. Allies on the Continent in any great war we could probably always obtain, provided that we can give material help in men and money. If we cannot give this help we must not be surprised if in place of allies we find enemies. If the mind pauses to contemplate such a thought it will be seen that it is one of extreme gravity. For such considerations are not necessarily limited to small States; strong Powers have to think of their interests and legislate for them, and possibly at the expense of their inclination. We cannot expect friendship if we cannot give material support, and sometimes it occurs that men rather than money is the necessity; both are sinews of war, but they are not interchangeable.

*We see, therefore, that an Army is necessary to supplement the work of the Navy, to crown its efforts and to ensure that the fruits of its success are not wasted. That political action enters into combination with rather than against the military action, tending to restrict military requirements, and that in the limitation of the military requirements the wealth of Great Britain is an important factor.*

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#### *Invasion.*

In war, an adversary loses sight of no factor which will place his opponent at a disadvantage. There is a threat which has nearly always been held over Great Britain in wars of the past, and which must be anticipated in the future—the threat of invasion. Whether the threat be real or feigned, it will be there, ineffective in exact proportion as it finds the country prepared or unprepared. It is easy in peace time to assure the public mind that until the Navy is beaten an invasion is impossible. It is doubtful, if the nation would accept such assurances with equal urbanity during the course of a war with Continental Powers.

The writer does not propose to attempt any detailed enquiry into this vexed subject. His contention is that whether invasion is or is not possible until the naval or first line is smashed, the threat is a factor of such potency that no adversary will omit to bring it into play. It is thus the tiger threatens the whale. The writer is prepared to leave this much-debated point, submitting that the following extracts, the chief of which come from the pen of a sailor, supply matter for most serious reflection. In a note by Captain Mahan on the strategical aspect of the Peninsular War, in the struggle with Napoleon, the following striking passage occurs:—

“It is instructive to note the essential military resemblances between the British invasion of the Peninsula, which was finally crowned with success, and Napoleon’s projected invasion of England, which came to nought. In the one case, a Navy supreme on the ocean and a small military force; in the other an unrivalled Army, and

a Navy inferior because of its quality. In each the chances were largely against success. In each the enterprise, strictly offensive in character by the inferior force, hinged upon the occurrence of the favourable opportunity which it was the part of the offence to contrive and of the defence to prevent. That there was in both cases a long waiting of nearly equal duration is a fortuitous coincidence; but the attitude of unremitting watchfulness and constant readiness, in a skilfully chosen position, is the distinctive characteristic imposed upon the inferior force which hopes to escape from a mere defensive posture, and by striking a blow to make itself felt in the lists of war. The opportunity never came to Napoleon, because the British leaders never took their eyes off his fleet, upon which his profound combinations depended as an arch upon its keystone. It came to Wellington because the Emperor turned his attention from the Peninsula, of whose troubles he was weary, and opposed inadequate means and divided commands to a single alert enemy.

We see, therefore, from the commencement the absolute mathematical, as it is called, nowhere finds any sure basis in the calculations in the art of war, and that from the outlet there is a play of possibilities, probabilities, good and bad luck, which spreads about with all the coarse and fine threads of its web, and makes war, of all branches of human activity, the most like a game of cards."

The watch over it (Brest), therefore, was of supreme consequence; and in the most serious naval crisis of the Napoleonic wars the Brest "blockading" fleet, as it was loosely but inaccurately styled, by the firmness of its grip, broke up completely one of the greatest of Napoleon's combinations. To it, and to its Admiral, Cornwallis, was in large measure due that the vast schemes which should have culminated in the invasion of England by one hundred and fifty thousand of the soldiers who fought at Austerlitz and Jena, terminated instead in the disaster of Trafalgar. Yet it may be said that had there prevailed in 1805 the system with which the names of Howe and Bridport are identified, which was countenanced by the Admiralty until the stern Earl St. Vincent took command,<sup>1</sup> the chances are the French Brest Fleet would have taken its place in the great strategic plan of the Emperor.

This far-reaching combination, so tremendous in its risks and in its issues that men have doubted, and always will doubt, whether Napoleon seriously meant to carry it through, was but the supreme example of the dangers to which Great Britain was exposed and from which her fleets had to shield her. It was aimed, with the true insight of genius, directly at the heart; and except from occasional assertions of the Emperor, whose words can never be implicitly believed, there is little cause for doubt that he was prepared to take many chances of ruin in order to execute an enterprise which both in conception and detail was so clearly stamped with the characteristics of his intellect and temperament.<sup>2</sup>

But a few years after Trafalgar the Duke of Wellington wrote:—

"I shall be sorry if Government should think themselves under the necessity of withdrawing from this country on account of the expense of the contest. From what I have seen of the objects of the

<sup>1</sup> February, 1801.

<sup>2</sup> "Influence of Sea Power," Mahan, Vol. I., pp. 339-40.



French Government and the sacrifices they make to accomplish them, I have no doubt if the British Army were for any reason to withdraw from the Peninsula, and the French Government were relieved from the pressure of military operations on the Continent, they would incur all risks to land an army in His Majesty's dominions.'<sup>1</sup>

Here are curious and striking points of agreement between great soldiers of the past and the greatest living writer on naval strategy, all intertwined round the question of the invasion of Great Britain. Who can meditate on these things and say Great Britain needs no second line for the defence of her shores? At any rate, it is not reasonable to expect that our opponents, with their great military resources, would omit from their dispositions the threat of invasion, and relieve the public mind of their adversary from the apprehension and unrest such threat must evoke, which always will grow with each adverse breath of fortune, and which has in it the germs of that political interference with strategy which, should the leaders be weak, will wreck and thwart its most judicious combinations. History is too replete with the baneful effects of popular demonstrations and panics, and in interference by public opinion in the conduct of a great struggle, for any opponent to overlook the possibility of bringing it into existence. Is it wise to assume strategy will be always so perfect, dispositions so just, that there will be no faulty measures, no loophole for a daring and skilful opponent, and therefore no need for the factor of safety in our calculations.

One of the chief characteristics of war is its extreme diversity. No two wars are similar in their conditions and the situations which they develop. It is consequently impossible to foretell or in any way discern what the strategical and political conditions of any future wars may be. If this is so of war in the abstract, its truth is most clearly illustrated in the case of a World Power like Great Britain. It is not enough to consider in the abstract a war between Great Britain and one or two naval Powers. It is necessary to take further into consideration possible complications which may exist prior to the immediate outbreak of such a war—complications which may in themselves influence its whole conduct and change its whole aspect. When war broke out between France and Great Britain in 1788, to be shortly followed by the alliance of Spain with France, Great Britain was already engaged in her memorable struggle with her revolted American Colonists, and this struggle was one of the most important factors in the great war which ensued, and was a predominating influence throughout it. It forced Great Britain on the defensive and dominated her strategy. It might have been thought that such a situation could never have re-occurred; but had war broken out with European Powers, as it readily might have done during the South African War, the situation would not have been wholly dissimilar. Neither the possibility nor the probability must therefore be lost sight of that in the future similar contingencies may arise. *The diversity and variety of war must never be lost sight of.*

#### *The Defensive.*

Though, as has already been stated, the possibility of Great Britain being opposed by equal or superior force in a naval contest

<sup>1</sup> Wellington's Despatches, Vol. VII., p. 380.



is remote, it is probable that no cause is more likely to compel her to assume the defensive than this factor of complications prior to the outbreak of the war. This is another weapon the tiger will seek to employ against the whale. The tiger, being astute, will wait till the whale is otherwise entangled before he enters on the encounter, thus neutralising the whale's advantages. With Great Britain on the defensive, most, but not all, the difficulties and limitations which have been considered with respect to a contest in which the Navy assumes the offensive become intensified.

It will be still more difficult for Great Britain to strike her adversary a fatal blow, though his commerce must suffer immense losses, by virtue of Great Britain's unique position in the matter of unrivalled communications throughout the great commercial waterways of the world. The special features of the political aspect of the struggle can alone determine whether the questions of the "neutral flag" and complications with neutral states are likely to become so acute as in the case where Great Britain takes the offensive. But it would appear that such contingencies are less likely to arise. The defensive has in it elements of great strength, and particularly so in the case of Great Britain. So long as the British Navy held its own a Continental coalition could not effect any great results, the only threat could be that of invasion, an undertaking involving immense risk, a threat which could be reduced to insignificance by Great Britain adopting adequate military precautions. Except in this particular, and that of the communications and bases to be considered shortly, the military forces could play but an insignificant part in the contest. The Navy, and the Navy alone, would have to bear the brunt of the struggle, but the communications and bases would play a very important part in it.

The probability, however, is, that the military forces would figure largely in the contest, due entirely to the fact that they would be actively engaged in that complication which forced the defensive on the Navy in the war of 1778.<sup>1</sup> It is important to note that the threat of invasion would be effective in direct proportion to the military forces engaged in such complication. Further, it is important to remember how powerfully public opinion was affected during the South African War by the practical withdrawal of the military forces from Great Britain during that war, though no threat whatever was made, though no war with a Continental Power existed, and that only the bare possibility of such war and consequently of such threat existed.<sup>2</sup> *Thus we see that on the defensive, in the abstract the Navy comparatively alone takes part, though the necessity for an effective Army is by no means thereby diminished.*

#### *Communications and Bases.*

The position of Great Britain as regards her communications is a very notable one in comparison with those of other Powers. No nation possesses communications of such extent, power, or strategic

<sup>1</sup> The writer is aware that this statement may appear to be in contradiction to that made on p. 476. But at first the war was commenced by France alone; England was not inferior on the sea till Spain declared against us.

<sup>2</sup> *Vide* Article by Professor Lecky in XIXth Century.

value; and the advantage of such a complete and powerful chain of strongholds over the world's waterway is to Great Britain an invaluable factor. There is no weak link in that chain. Let not this fair possession be underestimated, nor subjected to novel experiments by confusing strategy with economics, or by accepting new theories in the art of war which would dub them "Incubi"! Great Britain has neglected fortification in the past and has had to pay the penalty. "New York and Narragansett Bay," writes Mahan in his strategic summary of the war of 1778, "could have been made unassailable by a French fleet of that day, thus assuring the safety of the garrisons against attacks from the sea and minimising the task of the Navy; while the latter would find in them a secure refuge, in case an enemy's force eluded the watch of the English fleet before a European Arsenal and appeared on the coast."<sup>1</sup> "The evacuating Rhode Island," wrote Lord Rodney, "was the most fatal measure that could possibly be adopted. It gave up the best and noblest harbour in America, capable of containing the whole Navy of Britain, and where they could in all seasons lay in perfect security; and from whence squadrons in fully eight hours could blockade the three capital cities of America, namely, Boston, New York, and Philadelphia. France wisely took advantage of our misconduct, and has used every endeavour to make it almost impregnable."<sup>2</sup>

It was from the safe anchorage of Rhode Island that Barras sailed with his squadron and formed the junction with De Grasse which gave that Admiral an overwhelming superiority over Graves, and, at the same time, brought to Washington the siege train for the siege of York Town.

Our fortresses and coaling stations need large numbers to garrison them, but the heritage is a priceless one and cannot be dispensed with.

"A perfect line of communications required, as has been said, several such harbours, properly spaced, adequately defended, and with abundant supplies, such as England in the present day holds on some of her main commercial routes, acquisitions of her past wars."<sup>3</sup> And let it been seen to, that they are properly defended, let England remember the experience of Guadaloupe.<sup>4</sup>

<sup>1</sup> "Influence of Sea Power on History," Mahan, p. 529.

<sup>2</sup> "Life of Lord Rodney," Vol. II., p. 429.

<sup>3</sup> "Influence of Sea Power on History," Mahan, p. 520.

<sup>4</sup> All this disaster, which continued throughout the year, arose from not having quite enough men in Guadaloupe to put Hugues down before he had a foothold, and the British Government was now compelled to send a far larger force to repair in parts an evil, which a smaller number at the proper moment would have wholly prevented. . . .

The latter continued throughout this and the following war, until 1810, a thorn in the side of British trade. The recapture of Guadaloupe by the French, and the consequent evils, remain a pregnant warning against the folly of sending a boy to do a man's work; but underlying that miscalculation appears to have been the fatal error of relying upon local support to troops inadequate by themselves to the task before them. Desirous of doing many things at once, the British Government easily accepted the assurances of a few royalists, as to the political dispositions of a most excitable and changeable race, and the reinforcements that

This does not imply that the question of communications should be dealt with on a hard and fast, and unchangeable system. On the contrary, it is imperative that the strategical conditions should constantly be reviewed and kept to the forefront.<sup>1</sup>

Over fortification and unnecessarily large garrisons is a waste of substance and of strength, but it is necessary to maintain a happy mean fitly proportioned to prevailing strategical considerations, and peace requirements should conform to such principles.

It is quite true that no fortifications, however elaborate, and no garrisons, however brave, can, by themselves, ensure the safety of such communications, and that the fleet alone can do this. But this does not imply that fortifications are useless and garrisons unnecessary. Because the maintenance of our supremacy at sea is vital to the existence of the Empire, and that the fleet in being can alone effect this; to conclude, therefore, that if the fleet be defeated, the strategic points necessarily must fall, is to eliminate from all consideration the factor of time, and all the various circumstances of the disaster. Disasters may be repaired, especially if time permits, and it is this factor of time which a well-formed fortress can oftentimes ensure to the

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could be raised among them. It was an exact repetition of the blunder which led to the invasion of the Southern Colonies during the American Revolution; and the gist of the mistake is in the dependence upon unorganised forces to supplement the weakness of the organised force, which is not by itself alone sufficient to its undertaking. ("Influence of Sea Power, French Revolution and Empire," Mahan, Vol. I., pp. 117-119.)

<sup>1</sup>In discussing the war in the West Indies during 1783 to 1810, Captain Mahan writes of the strategic harbours as follows:—

"These four were, therefore, particularly dangerous to British trade, and consequently, so far as position went, particularly advantageous if in British occupation. It is true that the topographical conditions of the ground about a sea port in an enemy's country may make the occupation very hazardous, except by the employment of more men than can be had; as was the case at Mole St. Nicolas, where the fortifications of the place itself were commanded by the surrounding heights. Yet it remained in the hands of the British from 1793 to 1798; and it may be believed that their interests would have been well served by strongly garrisoning these ports."\* ("Influence of Sea Power," Mahan, Vol. I., p. 112.)

\* The author is keenly aware that this policy of garrisoning several somewhat separated ports is seemingly inconsistent with sound military principles as to concentration, as well as with what he himself has elsewhere said about the proper dispositions for maintaining control of a maritime region. It is, therefore, well to explain that those principles and dispositions apply where the belligerent navies are so far equal as to create a real struggle. This was not the case in the French Revolution. Great Britain had undisputed naval supremacy in the West Indies, and the question before her was, not to beat the enemy's fleet, but to secure her own commercial routes. To this end it was necessary to disseminate, not to concentrate her ships, and to provide them with convenient centres of refuge and supply along the routes. The case was analogous to the police arrangements of a city. In ordinary quiet times the police are distributed to cope with individual offenders; when a mob gathers and threatens the peace they are concentrated in large bodies.



hardpressed combatant. In a war in which the mastery of the sea has been assured, there is not less need for well formed military posts, though at first sight it might seem so. Because the enemy has lost command of the sea, it does not follow his squadrons will never escape, and that his cruisers must always remain in enforced idleness. On the contrary, in spite of the wisest dispositions, in spite of the most skilful leadership, in any well-fought contest constant opportunities will occur for making well-timed diversions, which, if not provided against, may work great devastation. Timely diversions are a potent factor in war. It is a drop which causes a brimful cup to overflow, it is the addition of a comparatively slight force which causes the strained cable to part.<sup>1</sup> Over-confidence, half measures, and neglect have filled the cup of misfortune to overflowing before now. The strategy of our fleets and of our land forces were both faulty in 1777, but had the tactical organisation of our communications been efficient, Great Britain might have been spared the humiliation of York Town.

There is a tendency to view war in its extremes, in place of in its unending variety. Our fleet must be in supreme command of the sea or else hopelessly beaten. This is decided by the battle-ships of opposing forces; and while this mighty struggle takes place on the high seas, the nation is bidden to hold its breath expectant on the issue. The picture is true in its details, but false in its setting. The hostile fleets will not meet on the open sea to decide their country's cause like competitors at a boxing tournament. Each will seek to take the other unawares, to force a disadvantageous battle on an unwilling adversary. And to reach this climax numerous subsidiary manœuvres, feints, threats, diversions, all have their place. During long periods such preparatory feinting goes on not without conflicts, not without misfortunes to either side; and it is during this period that well-found, well-defended, well-provided harbours are of inestimable value to the fleet-in-being.

Intimately bound up with the communications are the bases. Naval bases in home waters are vital positions, and there is no branch of warfare which has been more affected by modern inventions and science than Coast Defence warfare. At no time in our history have our naval bases and commercial ports at home been more exposed to the likelihood of attack, in the event of a naval war with Continental Powers, than at the present time. The development of the torpedo boat, the perfection of submarine mining, the scientific blocking of narrow waterways, are all modern features of naval warfare. The blow can be struck with great swiftness and with comparatively small forces. The results attending success in such attacks may be of incalculable importance, the result of failure is comparatively insignificant. Such being the characteristics of such attacks, immunity from them cannot be expected. On the contrary, everything tends to show such attacks will be certainties. These attacks are within the powers of offensive and defensive alike, and the opportunities of sealing up ships in their harbour, even for short periods, suggest possibilities of minimising the disadvantage of inferior numbers too obvious to be disregarded. By such a stroke Japan changed her inferiority into equality, if not superiority, in a night; and had her

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<sup>1</sup> "Influence of Sea Power on French Revolution and Empire," p. 347 :—Reasons for Irish Expedition of 1796.

enterprise miscarried, the consequences would have been no great matter to her. In such attacks, when wisely conceived, the assailant stands to gain great ends at little risk. The defence against such attacks devolves on the military; it is evident that in no single particular should such defences be wanting; the *personnel*, the armament, the organisation, the training, ought to be as perfect, complete, and, above all, ready for instant service as foresight can make it.

*Thus we see that, though the Navy is alone involved in a pure defensive, the subjects of communications and bases are all important. The Navy is the active agent, but that activity is dependent on and regulated by the communications and the bases.*

#### SUMMARY.

It will thus be seen that the armed forces consist of the Navy, the Army, and their defences, that the action and operation of each varies entirely with the circumstances of the struggle, but that the action of the Navy is always paramount. At the same time it is clearly evident that no element, in whatever degree it may predominate, is of itself all sufficient. That though the force required from the Navy is always a maximum, the part played by the Army is a most varied and quite uncertain quantity.

#### PART III.

*An Examination of the first three questions put forward in Part I., in the light of the enquiry undertaken in Part II.*

The stage in our study has now been reached when it is possible to form opinions with reference to the first three questions enumerated in the first portion of this essay. It will have become evident that in the first place an Army is needed not only for such clearly-defined and obvious duties as garrisons to our strongholds and dependencies overseas, for the security of India and the maintenance of order in semi and uncivilised portions of the Empire's borderland, but also for contingencies of great moment which, from the great diversities of war, can be apprehended only, but not clearly defined. This has been expressed by saying that an Army is needed as a "striking force." The expression is not wholly a satisfactory one, the action on land being supplemental to that on sea. It may happen that the pressure is exerted by the Navy, and that the Army is needed to enable it to sustain such effect, or that the Army is needed to exert pressure by means of the Navy. As has already been pointed out, the interdependence of the one on the other is so complete, the circumstances so various, that it is not correct to regard the Navy as a defensive force, and the Army solely as a striking force. The question then arises: What should the strength of such force be? This, from the nature of things, it is difficult to state, since each war demands its own special treatment. In some wars quite a small force will suffice; in other wars the whole force of the nation will be needed. A compromise in the case of the Army is therefore inevitable. One fact stands out pre-eminent: The Army must be strong enough to ensure the security of India, and the leader most competent to give an opinion, whose judgment should still all doubt and silence all opposition, has fixed the numbers at 500,000 at a minimum. The

nation stands, therefore, face to face with the fact that she must be ready to place in the field not less than 500,000 men, and that she may be required to furnish much greater numbers. In fact, how would she fare if she had to defend India from invasion at the same time as she had to oppose a coalition of Continental Powers? It is clear that such a coalition would leave no stone unturned to bring about such an event. It is evident that were Great Britain in possession of such an Army, then in the case where the invasion of India is not concerned, she would be in a strong defensive position. The threat of invasion would be shorn of its terrors, and the material aid she would be able to afford would be considerable, and would find her allies on the Continent in place of opponents. Moreover, would-be opponents might pause and hesitate before provoking her to resort to arms.

Attention has already been drawn to the approach toward an extreme in the matter of shipbuilding. Assume a Power, bent on aggrandisement, with great wealth, commerce, and resources; such Power has the means to provide herself with a great and powerful fleet. In the measure that her sea commerce and Colonial expansion increased, a development of naval power would be necessary and inevitable; but it may proceed beyond defensive needs, and beget a threatening and offensive character. An extreme at once becomes apparent. The armed forces of Great Britain as at present constituted provide but two factors to a substantial degree—a powerful Navy with good bases and communications, but no Army. Such a Power can thus force Great Britain to add to her Navy to a well-nigh ruinous extent; but were Great Britain in possession of an efficient Army of 500,000 men, the tables would be turned, as the second line being so strong, the exhaustive effort of creating a uselessly large Navy might threaten ruin to the would-be aggressor.

It is therefore an economical and far safer policy for a nation to maintain a well-proportioned and judicious development in each component part of her armed forces than to attempt to ignore the needs of the less important parts, provided the vital and important part is duly cared for; because if such attempt is made, it directly weakens the efficient action of the greater part when brought into play, and prior to war may lead to an overgrowth, which, approaching an extreme, cannot be endured.

It would therefore appear that the answer to the third question is that an Army of 500,000, exclusive of that required for garrison duties, is the minimum required. And definite ideas now being possible with respect to the first three questions, it now becomes necessary to consider how the force needed can be raised, maintained, and organised.

#### PART IV.

*Being an Examination of the Principles and Difficulties involved in calling an Army into being, and of the various Proposals which have been put forward to that end.*

The important question of how best to organise the nation to fulfil its duties in time of war, like the larger question of Army Reform, involves certain simple but vital issues, which must be decided before any scheme can be propounded. Unfortunately there is much variety



and conflict of opinion, and even those who do not agree on the first three questions which we have had under consideration differ from each other very widely with respect to the fourth, or that now under investigation.

If the literature on the subject be examined, a tendency will be observed to confuse principles with details. This is the cause of so much destructive criticism, which pulls down only, but which takes no part in the rearing of the edifice. A constructive scheme may be defective from two causes: The foundations or principles may be bad, or the foundations may be good but the design or details of the structure may be faulty. A stage in our endeavour to reform our military forces has been reached, where it is very essential that this simple truth should be recognised. If the foundations of a scheme are in question, it is unnecessary to discuss the merits or demerits of the proposed structure to be reared on those foundations. Similarly, if the foundations are good, let such be recognised even though the design of the structure is faulty; some progress has at least been made. Let a clear line be drawn between principles and details. Lastly, with respect to details or the design of the structure, let it be remembered that there are always more ways than one of doing a thing well, but that only one way of doing it can be selected. It is thus apparent that there is room for great variety of opinion in respect to details, or the measures whereby a desired result is to be effected. Such variety of opinion is of assistance to those on whom the responsibility rests of selecting the means, by enabling them to review all possible means; but it is of no assistance whatever, but quite the contrary, if such variety of opinion is merely used to check the working of the means selected, and so bring the edifice to nought. From such causes in the past much good has produced no results; here is a field in which the jealousies and the friction, to which attention was directed at the commencement of our study, have reaped a rich harvest to the great detriment of the public weal.

There are certain points on which there is more or less general agreement. It seems to be agreed that the forces required for our garrisons abroad and for an expeditionary force must be maintained on a different basis from what has been termed the Territorial Army, or the force which is to furnish our Field Armies when a great war breaks out; and, further, that the constitution of this first line or Garrison Army must remain very much on its present basis; and, lastly, that this Garrison Army should be kept as low in numbers as possible, and that such numbers vary from 100,000 to 120,000. With respect to the Garrison Army, any difference of opinion is with respect to detail and not principle. Unfortunately, agreement ends here. As regards the second line or Territorial Army, there is great conflict of opinion, both as regards principles and details. It is proposed to consider first the case of our second line or Territorial Army, as this is by far the most important part of our subject, and after that to see to what extent the subject of our study affects the first line or Garrison Army.

### *Second Line, or Territorial Army.*

Our second line or Territorial Army consists at present of the Auxiliary Forces—the Militia and the Volunteers. It is generally agreed that as at present constituted these forces are unable to fulfil

the duties required of them. How is the necessary force to be called into being? Such is the situation.

All the proposals, round which this portion of the great controversy in Army Reform rages, come under one or other of the following categories:—

1. The creation of a Territorial Army on a "Regular basis," and with all the paraphernalia of a Regular Army.
2. The formation of a Territorial Army composed either in whole or in part of the Militia.
3. A Territorial Army "mainly formed, so far as the infantry are concerned, of men who in time of peace are employed in civil avocations, and the scheme for this second line Army must fit in with the employments, and not the employments with the scheme."
4. The creation of the Territorial Army by resort to compulsory military training in some form or other.

Two great principles are involved: numbers and efficiency. Until agreement is arrived at on these two important issues it is useless to commence to build.

With respect to (1), it must be admitted that it will give an efficient force. It is on the question of numbers that there is great conflict of opinion. Not only is it urged that the numbers cannot be obtained, but, further, that the attempt to do so will detrimentally affect the first line of the Garrison Army.

With regard to (2), it is a question both of numbers and efficiency.

With regard to (3), there is no question of numbers, but there is a serious question of efficiency.

With regard to (4), there is no question of numbers or efficiency, but there is a serious question with regard to practicability.

If the foregoing analysis is correct, it is quite clear that the question of numbers is the root of the whole difficulty. The present conflict of opinion is based on the assumption that the state of the recruiting market is past mending; hence a variety of schemes to get the men some other way. And once roundabout methods are adopted, interminable conflict of opinion ensues.

One scheme will obtain men but will not make an efficient fighting force, another promises an efficient force; but can men be obtained to form it? And so other drastic reforms cut the Gordian knot, and propound schemes which must give what is required; but are such schemes practicable?

Now is this assumption correct? What is the state of the recruiting market? For some years past the annual number of recruits have ranged between 30,000 and 40,000 men, and this out of upwards of a million eligible citizens; and the whole trouble is due to the fact that these numbers never increase. Were there a crowded in place of a deserted recruiting market, there would not be such a conflict of opinion as to the best system whereby to call a Territorial Army into existence. It seems reasonable to infer, if only such a small proportion of the numbers available come forward, that either service in the ranks of the Regular Army is very unpopular, or else that something is radically wrong elsewhere.

A recruiting officer states his experience as follows:—"10 per cent. enlist deliberately, coming straight from their homes to do so . . . and join well dressed; about 30 per cent. enlisted willingly, but did not do so until out of work, though they had often contemplated joining the Army; another 20 per cent. enlisted willingly, but had never thought of doing so until they were out of work; the great majority of this 60 per cent. were excellent recruits. The remaining 40 per cent. were driven to enlist by hunger; they were mostly in rags, and the greater part were bad characters."

That is to say, that out of upwards of a million eligible, only 3,000 or 4,000 well-to-do citizens join the Regular Army. However, soldiering in itself is not unpopular with the British people; the existence of the Auxiliary Forces proves that it is not so. What is wrong? Major-General Sir J. F. Maurice, when in command of the Woolwich District, made the following public statement; it proves very clearly one thing which is very wrong:—

"Certain evidence has recently come before me, which I hope to take an early opportunity of laying before Commanding Officers, of cases in which very desirable young soldiers who were made for the Army, have purchased their discharge for no other reason than this: That they could not stand what went on in the barrack-room."

The late Field-Marshal Sir Lintorn Simmons wrote on this subject as follows:—"The misery can scarcely be conceived which a respectable young man, brought up by worthy parents with sound principles of right and wrong, must undergo when placed with a dozen or twenty men swept together haphazard from the lower classes of society in the same room, which serves them for eating, sitting, and sleeping, in which he can never be sure of a quiet moment to read or write a letter, or to give himself up to serious reflection, and in which if he were to read a serious book or kneel down to pray he would not improbably draw forth the ribald jest or foul oath of the blasphemer."<sup>1</sup>

This picture of the barrack-room drawn some 30 years ago, is happily too highly coloured for the present day; but the evil is there still, as we have seen. Other causes exist, and opinions will vary on the question, and only one more will be mentioned. A large number of the class required are kept from joining the Service from apprehension for the future: What is to become of them when they leave the service? This question, like that of the barrack-room, is no new question; many schemes have been put forward, and private enterprise has effected something; but such efforts may palliate an ill, they cannot eradicate it. Government action alone can do this. But no comprehensive scheme to make any provision for soldiers on completion of their service or to give them any advantage whatever over those who have never served their country in any capacity has ever been considered by Parliament; not even when wasted by disease due to exposure from keeping guard over their country's flag in tropical climes. No, not even then does the State make any other provision for her soldiers than the workhouse. Opinions may differ as to the causes, but there can be no difference with respect to the fact that there is amongst civilians an inherent antipathy to service in the

<sup>1</sup> Pamphlet on Army Reform, by Sir Lintorn Simmons, 1871, pp. 75, 76.  
See R.U.S.I. Records.



Regular Army. Two causes have been put forward in explanation of the existence of such antipathy, and these must speak for themselves; they are neither of them new, and as regards the first, reformers from the days of Sir Charles Napier have pleaded for the satisfactory solution of this difficulty.

### *Efficiency.*

This is also not a new subject. All that can be said on it has already been said thirty years ago by Sir Lintorn Simmons. "Every soldier," he writes, "knows that three things are necessary in the constitution of an Army: (1) Training; (2) discipline; (3) experienced officers. If we test the Infantry Militia by this standard, as all foreign officers undoubtedly do who come to this country to study our military institutions, the account will be:—

Training almost *nil*.

Discipline the same.

Experienced officers, very few.

And they will add that the only use which could be made of them is to aid the police in enforcing the laws, to maintain peace and order in our own country, and to assist in garrisoning our fortresses.

In our enquiry into the features and condition of war between Great Britain and naval Continental Powers, the fact was established that it was not possible, on account of the diversity of war, to define the extent and degree of the Auxiliary Force which a future war might call into play, and that this factor is largely governed by the political question; but the military efficiency of the adversary was a factor never enquired into. The matter is beyond doubt: Whatever work the second line Territorial Army has to do will be against the finest troops Europe can produce. Can any Army formed on a Militia basis be sufficient for such purpose? Sir Lintorn Simmons has reviewed the question in great detail, and gives his opinion in unequivocal language. His reasoning is as pertinent now to the exigencies of the present day as they were to the times in which he wrote, thirty years ago, and controversy on attempts to create a Territorial Army on either a Militia or a Volunteer basis can never be set at rest until his cogent reasoning is disproved. Of an Army formed on a Militia basis, in which the scheme must fit in with civil employments, and not the employments with the scheme, it is only necessary to call attention to the infinite variety of such employments and the infinite variety of individual association in employments of the same nature in order to show how easy it is to state a theory, and how very different it is to give it practical effect. In a unit so composed, the individual needs of each man would have to receive recognition and special treatment. The attainment of such an ideal does not appear to be within the region of practical possibility, except to a limited extent, to which attention will be directed later on. There is one more point to which attention must be directed with reference to this question of efficiency. Reference has already been made to the law of extremes, and on the Continent the law of extremes has entered largely into this question of "efficiency for war" in respect to the fighting quality of the soldier. "Numbers only can annihilate." This truth has been fully recognised, and in order to give full effect to it we find "nations in arms"; each individual trained to arms,

ready at the call of his country in the hour of need. It has imposed a heavy burden, and to avoid the extreme, a limit has had to be imposed on the time of training; and so near has the extreme been reached, that we find the law of necessity has imposed unanimity as to that period. Each great Power, striving to attain an advantage over the other, fixed the period at three years, and struggled to maintain it. The burden became too great to endure, and at length one great Power gave way and reduced the period to two years, and the remainder do not maintain the advantage. They are content to maintain equilibrium and relieve the pressure, and they too followed suit.

Similarly for a standard of efficiency Great Britain need not go beyond the two years' period of training; but efficiency is impaired if less is accepted.

### *Compulsory Service.*

The advocates of some form of compulsory military training have greatly increased in strength at the present time, and an investigation of this question is a necessity. There is no doubt that as regards the military aspect of the point at issue, it completely solves the difficulty. It gives to the nation the numbers and the training needed for efficiency; but at the same time it introduces an entirely new set of factors. Before any steps can be taken, the law of the land must be altered, and altered radically. Is there any likelihood that such changes could come within the region of possibility in the near future? If not, what is to be done meanwhile? What objections can be urged against such changes? It has already been shown that the extent and degree of the military force in any possible war with Continental Powers is a very variable and indefinite factor. The force required may be comparatively small; on the other hand, it may be very great. But in the main the tendency is to restrict the action of such force within, comparatively speaking, moderate limits. Great Britain requires a great Navy; she does not necessarily require a great Army. This consideration should be borne in mind as the key-note of the case against compulsory service, which has nowhere been more admirably summed up than by the great Lord Derby in the House of Lords:—"If you apply compulsory service universally and endeavour to train everybody, you are making ten times the amount of preparation that you can possibly require. If you are merely to pick and choose or take men by lot, you cannot prevent great practical inequality and injustice in the application of the law. Admit substitutes and the hardship falls exclusively on the poor; insist on personal service and the loss of time, which to the young man of fortune is nothing, and which to the lowest class of labourer is unimportant, because the pay while serving is as good as he would get elsewhere, becomes a very heavy tax on the skilled industry of the artisan or the professional man, or those who have business habits to acquire."

These are the objections, and they must be overcome before the country would accept any measure enforcing "compulsory training."

The scheme put forward by the writer in the current *Quarterly Review* (October) ingeniously seeks to evade these rocks and shoals by admitting no exemptions, and reducing the terms of service to the least burdensome limits; but it is a serious question if this has not been done at the expense of "efficiency." The matter is here drawn attention to



because the writer of that article apprehends seemingly such a defect, and to dispel it calls to his aid a most fatal factor. Of all the factors to call into play to ensure efficient training, the time between mobilisation and the hour for action is the most deceptive and unstable; and yet in the discussions which have taken place it not unseldom figures. It has been decided that in the event of an attack on India no large reinforcements from this country would be at once required, and time for training is assured. If the time of mobilisation, formation of training camps, embarkation, transport across the seas, disembarkation, and movement from the base to the front be carefully considered, it will be found that very little time will remain for training. This is a deadly snare, and a very vain delusion.

The questions at issue on this vexed question of a Territorial Army have now been set forth. Principles, not details, have been examined. It is useless to discuss details till there is agreement in principles.

A scheme, however, is before the country officially, and with respect to such scheme some further remark is needed. It is a scheme to create a Territorial Army on a "regular basis with all the paraphernalia of a Regular Army."

The scheme is not dissimilar from that put forward by Sir Lintorn Simmons thirty years ago. The variations noticeable are: First, that it makes special provision for the Garrison or First Line Army; secondly, that the terms of service are reduced from three to two years' colour service; and lastly, that it aims at absorbing the existing Auxiliary Forces. All these modifications would appear to be improvements, though round two at least of these points great controversy exists. It has been stated that there is general agreement that the First Line or Garrison Army must be differently organised from the Second Line or Territorial Army; the dual terms of enlistment are the means selected to effect this, and may well claim a fair trial before being condemned. The period of two years' service is that adopted by the great Continental Armies, and will give efficiency. As regards the question of numbers, the details of the scheme directly aim at popularising the Army and the betterment of the recruiting market.

The Auxiliary Forces as at present constituted are admittedly unsuited to carry out the work which would devolve on them in war. These two great component forces have rendered their country great and lasting services, and are the practical embodiment of that patriotism so vital to a nation, and which it is so essential that the State should cultivate and nurture. But judged by the standard of efficiency they do not now fulfil its requirements, nor can they ever do so while retaining their special distinctive characteristics, without the standard is lowered below that fixed by Continental nations, and is based on factors unstable and illusory.

By the absorption proposed the lesser is merged into the greater, the Auxiliary into the Regular; and by such absorption the Regular will be the gainer, for if happily effected it should ensure the extirpation of the public antipathy to military service, which is the great obstacle to the creation of an efficient army.

If the foregoing examination has been complete, it must be recognised that the official scheme, whatever the merit of the details of that scheme, goes to the root of the matter, and that it possesses



the germs of a growth which can give the Nation a military force suitable to its needs. From the nature of things the development of that growth demands time, and it is to be noted that it labours under the disadvantage of being introduced at a time when a great war has created abnormal conditions. It does not appear to be needful to go into figures to show that this scheme, provided the measures intended to improve the recruiting market are successful, will give not only the numbers requisite, but will, in time of need, be capable of largely increasing such numbers.

The scheme meets the strategical and political requirements of the nation as set forth in the foregoing pages, and fulfils economical requirements as regards establishment. It permits of the maintenance during peace of a standing army of small establishment, it creates a reserve force capable of giving the country that military force the situation demands. And in the special contingency where the Nation is called on to make a supreme effort, the scheme possesses the needful elasticity.

Lastly, our study points to the conclusion that short of the official scheme now before the country, no other scheme can provide a military force of the necessary standard of efficiency without a resort to compulsory military training, and with all those manifest objections so admirably summarised by Lord Derby. The details of the scheme may or may not be susceptible of improvement, but it is not details but principles which are at issue; and it is important to note that popularising the Army by bringing the public in touch with its soldiers is a marked feature in the details.

#### *First Line or Garrison Army.*

It now remains to consider our subject with reference to the First Line or Garrison Army. It has been stated that there is general agreement that the strength of this force should be the minimum consistent with safety. Strategical no less than economical considerations demand this. It has always been recognised that the fittest sphere for the employment of the Auxiliary or Volunteer soldier is in the performance of garrison duties; and if the nature of Great Britain's garrison work be considered, it will be seen that the Volunteer can, in this sphere, render great service to the State.

Our garrisons at home are concerned with the defence of our naval bases and commercial ports; the supreme importance of this work has already been called attention to. The Coast Defence troops are chiefly concerned in the working of what is termed the anti-torpedo boat defence, and the working of the heavy armament of the fortress. The armament and the adjuncts of defence involve a variety of highly technical and specialised work, in which individual rather than collective training is required. Engine drivers to run engines of various kinds, electricians for electric defence lights and telephonic communications, telephonists to man the communications, specially instructed men to work elaborate range-finding instruments, artificers of all sorts and kinds to effect repairs. Now, at the present time, these are provided partially and with difficulty by the Regulars and by Volunteer Units. But the Volunteers being organised in units experience all the defects of their lack of military training, and further, they are not intimately associated with the fortress they are allotted to on mobilisation. The Regulars experience

all the difficulty of having to train men not sufficiently well educated for the special work required. A lad from the plough speaks with difficulty into a telephone, and is understood with still greater difficulty at the other end; and his comrade at the other end transmits the message to paper also with difficulty. If the lad from the plough is at one end, and the officer at the other, matters are not mended, for the officer will probably use words the boy has never heard before, and does not understand. Now, in every naval base and large commercial port, there are hundreds of well-educated lads who work telephones six days in the week, who would be invaluable to the Coast Defence telephone system, who would be glad and proud to come, and who would be welcomed by officers and non-commissioned officers, and specially cared for by the soldier. But if military ardour has fixed the breast of such young townsmen, they probably have joined the local Volunteer Artillery Corps, and the service the State will require from them is to lift heavy weights in connection with the service of heavy guns, to which they are wholly unaccustomed, and for which work they are not physically fitted. So unsuited is the system in force to make the best available use of the individual and obtain the fittest for the work in hand. The system also, in place of bringing the Regular and the Volunteer together, keeps them severely apart. Take the case of the officer and let him belong to the Militia, he will be found to live at Plymouth, belong to a Scottish Militia Artillery Corps, and to mobilise at Portsmouth. When he does his training with the Regulars he will do so at Plymouth. Assume a different system whereby he is neither a Militia officer nor a Volunteer officer, but a Reserve officer in the Regular Army. He belongs to the Plymouth Garrison, he is a welcome member of the officers' mess, he has a definite post in the mobilisation scheme, he arranges to be present at the weekly manning as often as his business permits, he can always arrange to be present at the night mannings, his period of training is the annual course of the unit to which he is posted, he is always present at the class firing of his unit, and so forth. Would not such an officer be far more efficient than under the present system, would not his position be a prouder one? Would not such a system be likely to attract those gentlemen of means and leisure who have always proved such good soldiers, and also those patriotic but harder-worked and busier gentlemen who deny themselves their leisure to serve their country's cause? Assume the system developed, and the young townsman joining with these gentlemen and all having their respective posts. Here the scheme can fit the employment, and individuals could be taught their specialist work, by association and work with the Regulars; such Reserve officers would learn experience, and such Reservists that discipline which, organised in separate and distinct units, they would never acquire. As with military work, so in the engineers and in a less degree possibly in the infantry, could Volunteers co-operate with the Regulars in garrison work, to produce results which alone not even the Regulars will attain to. What social developments might not be expected from such intercourse? what pride and interest would not such towns take in their garrisons? But in place of this is a system which turns the workman of our only Arsenal into a partially trained soldier; when in time of war the State needs that every man in that Arsenal should work by day and night to keep her fleets, her armies, and her garrisons replete with the munitions of war. What a parody of organisation.

In the study of our subject the question of expenditure has only been alluded to as a very acute question. No attempt has been made to go into this matter; though its importance is fully recognised, it does not directly bear on our subject. Sir Lintorn Simmons, who did go carefully into this question, showed that such a scheme as that now officially before the country would not add to expenditure; and in the various alternative schemes, and in discussions generally, the question of expenditure has not entered largely into consideration. Expenditure is a matter for economists, and as long as the country pays market value, where she might well demand preferential treatment and enforce it, the maintenance of her naval and military forces must always be a very costly matter; but cost in this sense in no way affects naval and military strategical considerations.

In this study an attempt has been made to deal with a subject of national and engrossing interest, round which many and great controversies have long and still do rage, in such a way as to define its scope, and present clear and simple principles. If any measure of success has been attained, then something will have been done to narrow down and fix within limits the real issues in debate, and our study will not have been undertaken altogether in vain.



## FOURTH PRIZE ESSAY.

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*Subject:—*

“IN THE EVENT OF WAR WITH ONE OR MORE NAVAL POWERS, HOW SHOULD THE REGULAR FORCES BE ASSISTED BY THE AUXILIARY FORCES AND THE PEOPLE OF THE KINGDOM?”

*By Major R. A. JOHNSON, 1st V.B. The Hampshire Regiment.*

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*Nunquam non Paratus.*

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### PART I.

*The Requirements of National Defence, and the Contributions to be expected: (a) of the Regular Army; (b) of the non-Regular Forces of the Crown.*

IT will be obvious that in attempting to find a complete and satisfactory answer to this question it will be essential, in the first place, to satisfy ourselves as to what is the nature and the amount of the assistance which the Regular Army will require in the event of the war with one or two naval Powers that is pre-supposed in the theme. In order to do this we must examine the whole question of national defence from the bottom, discover what is the scheme which will best guarantee the security of the Empire, while at the same time remaining within the practical reach of our soldiers and our Statesmen. Having settled this point we must find what is the contribution which our Regular Army can make towards this scheme, and what assistance, therefore, it remains for us to find from resources outside the Regular Forces of the Crown.

There are, of course, only two ways of securing peace: one is by abject submission to every demand—a policy which will bring with it loss of Empire and even loss of nationality; the other is by maintaining armed forces which no other nation will dare to attack.

Every separate British possession has a sea coast. The dispersed members of the Empire can only be brought into communication with each other by sea, and therefore, if we have the command of it, the sea will be annihilated, and the frontier of every British possession will march with that of Great Britain. If, on the other hand, the command of the sea is lost, not only is it most questionable whether the British Islands would be able much longer to maintain the

struggle; but in addition it will be left to every scattered fragment of the Empire to fight it out as best it can on its own resources. For defence, then, the sea is our best safeguard; but the security of any nation, still less of any empire, has never been obtained by passive defence alone. The only true policy of defence is the offensive-defensive, and it is with this problem therefore that we are about to deal.

If the command of the sea is essential for the purposes of passive defence, it is still more so for the offensive-defensive. The point is almost self-evident; happily it is universally recognised. But it involves some important corollaries into which it will be necessary to enter at a later stage. At present it is sufficient to lay it down as an axiom that if we mean to be successful in any war, great or small, we must, as a preliminary, hold the command of the sea.

At the same time, it is dangerous to suppose that a supreme Navy alone will suffice. An island Power which has a Navy and no Army cannot win, and may lose, a war. As Mr. Amery has well put it:—

“A purely naval war cannot crush a Continental enemy. It may be prolonged indefinitely and cost enormous sums, which will cripple the whole power of the nation, and thus in the long run endanger naval supremacy itself, for naval supremacy must be based on national wealth. Moreover, even to purely naval success, military success is sometimes an important factor. Without the Army which captured Port Arthur, the Japanese would have found it more difficult to establish their naval supremacy in the Far East. The battle of Mukden has probably prevented Russia from ever again becoming a dominating power on the coasts of the Pacific, and has, therefore, greatly weakened her chances of becoming a dominant Power on the waters of that ocean. Again, the Navy, to make sure of success, must be absolutely unhampered in the pursuit of its strategical objective—the enemy's fighting fleets. It must not be tied down to local defence. The object of our fleets is not to prevent an invasion of England, but to destroy hostile fleets. Lastly, the Navy cannot defend a Continental State; but the British Empire is, as regards Canada and India, at least a Continental Empire. Nothing that we could do at sea could ever recover either Canada or India if once they had come under the grip of the great territorial Empires whose frontiers march with theirs; but the defence of Canada and India is as essential to the defence of the British Empire as the defence of England.”<sup>1</sup>

This point is further illustrated by Colonel Callwell in his recent book:—

“There is a dangerous idea prevalent in this country that because a dominating Navy is the best safeguard for its security, the complement of sea power—military force—is of altogether secondary importance to the State so situated. The attitude taken up by soldiers of prominence on the subject of home defence—an attitude which has helped to throw the true functions of the Army so long into the background—has contributed to this. An insular Power with great fleets at its command may be justified in trusting to its battle-ships and cruisers to guard not only its sea-borne trade, but also to ensure its shores against invasion; but that is defence, mere passive defence.

<sup>1</sup> “The Empire and the Century,” p. 185.

. . . Naval resources unaided cannot, under the ordinary conditions which arise in warfare between maritime nations, inflict upon an enemy the amount of injury requisite to bring about a collapse. Command of the sea is, as Corbett so well expressed it, merely a means to an end, and that end is attainment of the object for which the war was undertaken. Sometimes war is undertaken for the express purpose of conquering territory; if so, military force must perform its share in the struggle. Sometimes it is undertaken to destroy naval forces which have grown into a menace to future prosperity; if so, sea power unaided may be unable to accomplish the task. Sometimes, and more often, a war arises out of some quarrel or as the result of rivalry between nations, and then the purpose which either side has in view is to achieve such measure of success as will lead up to an advantageous peace. Success means injury to the enemy in the form of exhaustion financially, of securing some material guarantee at the enemy's cost, or the acquisition of hostile territory, and this kind of success is generally beyond the scope of naval force to accomplish, unless, indeed, the contest be protracted to a dangerous length, and unless the victorious belligerent is prepared to emerge from the struggle ruined if triumphant."<sup>1</sup>

The case, then, is as follows: If we are to remain a great Power, our armed forces should be such that in the case of war we should have reasonable hope of decisive success before we are financially exhausted, and that in the case of initial reverses we should be able to offer prolonged resistance, and so exhaust our enemy. To leave the Army out of account and to imagine that a Navy could do everything that a nation requires to be done in time of war is to make a fundamental mistake, both as to the strategical conditions of the position and of the temper and spirit of the British people. At present if we win, the best we can hope for would be a "draw," the result of which would not be in our favour. • If we lose, we lose everything. What we have to provide for is a force that will enable us to win decisive success by penetrating some part of our enemy's country.

Fortunately, however, for ourselves the military force which we require, though it must be large, need not attempt to equal the vast hordes with which compulsory service provides our Continental neighbours. The great advantage conferred upon an amphibious Power like our own is that we shall be able in the future, as we have been in the past, with a comparatively small force, to wear out and defeat the much more numerous Armies of our enemies. In Colonel Callwell's volume will be found example after example of the effect, out of all proportion to its numbers, which an army which uses the high seas as its base can produce upon the forces of a Continental Power, which are limited to transport by land. The great Napoleon himself was obliged, however unwillingly, to acknowledge himself baffled and even beaten by the amphibious power of Great Britain.

He had driven them into the sea at Toulon, and they had sailed away to Corsica. His generals had worsted them amidst the dykes and dunes of North Holland, but they had been obliged to let the enemy embark and return to England. To a commander accustomed to decisive victories like Marengo and Austerlitz, these islanders, with

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<sup>1</sup> "Military Operations and Maritime Preponderance," Colonel C. E. Callwell, p. 182.



their appearances and disappearances, their fleetings to and fro, their intangible and irritating strategy, presented a perplexing and vexatious problem.<sup>1</sup>

And there are examples in more modern war. If the "*Times History of the War in the Far East*" cannot teach us that sea power never was or ever can be maintained without the collateral efficiency of the military factor, nothing can. All that awaits us is eventual ruin through the misunderstanding of Captain Mahan, whose doctrines mean nothing but this: that efficient Armies with sea power behind them are invincible, and that no degree of military efficiency without sea power can compensate for the lack of that weapon; and the *Times* narrative of the Far Eastern struggle reveals to us the modern meaning of amphibious war. In its account of the uses which Japan made of her armies in the China Sea, "the result is that an enemy, when war breaks out, is in constant doubt and dread; feints are magnified into serious attacks, and troops are marched and counter-marched to respond to conditions changing from day to day. Orders, counter-orders, disorder follow in rapid succession, and the fight for position is half won before the first shot is fired. The initiative, that is what every good soldier and sailor always prays for—and in the hands of an insular State prepared for war it can become a terrible weapon indeed."

So far we have treated with the command of the sea as it bears upon the problem of offensive action. We have now to deal with those corollaries which our amphibious position predicates as regards what is called the problem of the invasion of Great Britain. We do not intend to enter into the vexed question as to whether invasion on a large scale is possible or impossible, or whether, as some think, we need merely apprehend the danger of a raid from a force varying in numbers from 70,000 to twice that number. What we do wish to lay stress on is the fact that, as regards invasion at least, if such a thing is possible at all, the only period during which we need fear it are the weeks or the months after the outbreak of war, during which the question whether we can or can not retain the command of the sea hangs in the balance. If we lose the command of the sea absolutely, invasion is more than a danger—it becomes a certainty; if, on the other hand, we retain it absolutely, invasion is out of the question. But until the high seas are safe for our transports, not a man or a gun will be able to leave these shores, however pressing the call on the distant frontiers of the Empire. When the command of the sea has been obtained, we ought to be in a position not to apprehend invasion at all. This fact has an important bearing upon the problem under discussion. Our "striking force," which, during the later stages of the war, is to operate in conjunction with the fleet upon our enemy's coasts, or to be despatched bodily for the defence of the Indian Frontier, will be naturally trained and maintained at home; at home, too, it must perforce remain for the whole period during which a serious invasion is to be apprehended. When the danger of serious invasion has once passed away in consequence of the destruction of the enemy's fleet, it is not likely to return, and the problem of assisting our Regular Army to repel the invader of

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<sup>1</sup> "Military Operations and Maritime Preponderance," Colonel C. E. Callwell, p. 301.

these islands will be broadened out into the far graver problem of supplementing that Regular Army when it assumes the offensive against the land forces of our enemy. Nevertheless, there can be an intermediate stage. It is possible that in a war with two naval Powers, whose fleets are together numerically nearly as strong as our own, complete command of the sea may neither be altogether won nor altogether lost, and during this period the pressing calls from the Indian Frontier or elsewhere might make it essential for us to draft the main part of our Regular Army under convoy out of Great Britain, while at the same time the greatness of the prize may tempt our enemies on the Continent to take the vast hazard of "a blow at the heart" by endeavouring to slip a large army across the narrow seas which lie between us and the rest of Europe. During this period it will be obviously desirable that we should assist our trained professional Army, and, in addition, give to our Navy that freedom of action which is so necessary to its effectiveness as a weapon of offence, by having ready to our hands a Home Defence Army mainly composed of civilian troops, but strong enough and well trained enough to deal with the raiders without appealing to the Navy or the Army to abandon their enterprises abroad and return to Great Britain to deal with the intruders.

We have now to return to the assistance which the Regular Army will require in carrying out offensive operations beyond the shores of the United Kingdom; that is, we must pass from the mere defence of Great Britain to the wider problem of the military obligations of the Empire as a whole.

"The policy which, as at present, devotes one-half of the expenditure and 9 out of 11 soldiers, whether Regulars, Militia, Yeomanry, or Volunteers, to the work of passively waiting for the blow of an enemy, can only be compared to that of a football team which ties up 9 of 11 of its men in the goal. . . . The doctrine of 'Defence not Defiance' is a thoroughly pernicious one, and has found embodiment in immense and immobile fortifications costing millions, and a host of armed citizens constituting a cheap force which could hurt nobody's feelings, its functions being limited to sitting down behind the hedgerows waiting for the attack of a great hostile army. . . . For the work of an Empire of over 12,000 square miles with 43,000 miles of coast and a vast trade, mobile forces are essential, for they only can cope with the whole of its multitudinous requirements."<sup>1</sup>

What, then, are the military obligations of the Empire in the case of war with one or more naval Powers? The defence of India is the first and most pressing military problem to which we must attend.

"When we conquered India it was practically an island. Even now it is still separated by an enormous gap from the effective centre of Russian power. At the same time, Russia—real Russia, not the boundary on the map—is steadily advancing towards the Indian Frontier. That advance will only be delayed, but not stopped, by defeat in the Far East or a revolution at home. The completion of strategical railways towards Afghanistan has been going on steadily in spite of the war in Manchuria. Russia believes—and correctly

<sup>1</sup> "The Empire and the Century," Mr. Carlyon Bellairs, R.N., p. 208.



believes—that she can concentrate even larger armies in Afghanistan than in Manchuria, and she also believes—and again, unfortunately, with reason—that we cannot bring against her as large or as well-trained forces as Japan has done. Whatever may be the situation at the present moment, the general trend of events is certain. Europe, with its economic and industrial development, its railways, and its military power, is slowly advancing across Asia, and will bring the whole weight of the European State, organised on modern military lines, against an Asiatic Empire based on primitive agriculture and defended by a small standing Army, partly native and partly European, with no adequate reserve behind it. This state of affairs is supremely unsatisfactory, and must be altered while Russia's present exhaustion gives us time to do so.<sup>1</sup>

What is the number of men we shall require for India? The *Times* correspondent at St. Petersburg (*Times*, 26th March, 1905) calculated the Russian troops in Manchuria at that date to number 820,000. If Russia could place so large an army in the field at such a distance from its base, and could maintain it effective for so long a period by only a single line of railway, it may be easily calculated what she could effect in Afghanistan, with two lines of completed railway, and with a far less distant base. Our requirements for the defence of India, at a modest calculation, cannot be estimated at less than what Lord Roberts has stated that we require, namely, 500,000 men in the first, and drafts or reinforcements at the alarming rate of nearly 300,000 men during every succeeding year of the war. Towards this number we have the authority of Sir Edmund Elles for saying (*Times*, 30th March, 1905) that India can at present only provide, exclusive of Imperial Service troops, a total Field Army of 139,000 men.

But in calculating the utmost possible limit for over-sea requirements in times of war on the basis of a struggle with Russia, we should not exclude the possibility of war with a combination of other Powers. The problem of the defence of Canada, for instance, which has 3,500 miles of frontier towards the United States, and a population of but six millions against the 70 millions of its great neighbour, is more vital, perhaps, than the defence of India.

"The defence of Canada is a question of principle and of national self-respect. It is the very touchstone of Imperialism. Unless we are prepared to defend Canada to the utmost, to put our last man into the field, and to spend our last shilling, all our professions of belief in a united Empire are mere verbiage. That our existing military system, or Mr. Arnold-Forster's modification of it, meets the demands of the Canadian problem, even less than it does those of the Indian problem, is obvious."

The military force required for the defence of Canada is again at least 500,000 men: nor are we absolutely excluded from the possibility of being forced to intervene on the Continent of Europe itself. Our Treaty obligations with Belgium may force us at any moment to take the field to safeguard her integrity, and for this purpose, even in alliance with another Power, our present standing Regular Army would be totally insufficient.

<sup>1</sup> "The Empire and the Century," Mr. Amery, p. 186.

<sup>2</sup> *Ibid*, p. 188.



Having now dealt with our requirements, we are able to set about the enquiry as to how they are to be supplied. It is not material to this essay to discuss the various schemes that have been put forward for the recruitment and organisation of the Regular Army. Whether we have a long-service Regular Army with a small Reserve, or a short-service Army with a large Reserve, or a combination of the two, it is quite certain that the number of professional soldiers which we can afford to maintain, under any conditions whatever, will be quite inadequate to meet these requirements. Quite apart from the fact that, under present industrial conditions, the average annual supply of recruits for the Regular Army is not likely much to exceed 50,000 men, it is quite clear that, even if we could get the men, the expense of training them, and, above all, of providing pensions for them, would be quite beyond the pockets even of the richest nation in the world. Under a purely long-service system, the Reserves of the Regular Army could contribute some 60,000 men. A purely short-service system would make it impossible to maintain the British garrisons in India in time of peace, and may therefore be set aside as impracticable. It is at present a disputed point as to how large a Reserve could be supplied by a combination of a long and a short-service system; but at most it will not exceed 120,000 men. Somewhere, then, outside the Regular Army, as we at present know it, the balance has to be found, amounting to not far below 200,000 men in the first and 300,000 in every succeeding year of the war. This balance can only be found by providing in our military system, according to the words of the Elgin Commission, "considerable powers of expansion beyond the limits of the Regular Forces of the Crown," *i.e.*, by the creation of something in the nature of an Imperial Militia, with an organisation that will enable us to put a really large and effective force, not reckoned in tens, but in hundreds of thousands, into the field.

It is clearly without the scope of this essay to discuss the desirability of providing this Imperial Militia by compulsory service. Whatever may be the advantages of compulsory service—and from the physical and even the moral point of view those advantages are great—the Anglo-Saxon race has up to the present shown a distinct unwillingness to face compulsory service on the European model, and it is impracticable under conditions now prevailing to expect any change in public feeling. The practical Statesman would therefore address himself to the practical problem by asking himself the question which stands at the head of this essay, and endeavouring to develop the existing military resources of the country, and to organise them for war with the least possible dislocation of the present industrial and social conditions.

"At the same time, it is a significant fact," writes Sir Edward Hutton, "that the liability to military service is generally recognised as one of the obligations of citizenship, and a general feeling is showing itself that the solution of the problem will be found in the future development of the Militia system, whose theory, as described by Lord Cardwell, is conscription, but whose practice is voluntary engagement."<sup>1</sup>

What hope have we, then, that we can obtain by voluntary enlistment the services of such an Imperial Militia? What evidence

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<sup>1</sup> "The Empire and the Century," Sir Edward Hutton, p. 200,

is there that, having obtained it, it would be effective? As regards the first question, we may perhaps find in the great Colonies of Canada and Australia more hopeful evidence that the thing is possible than we can at present find at home. Both Canada and Australasia have now taken upon themselves absolutely the whole burden of the land defence of their territories, and in addition, will doubtless be prepared, as they were 5 years ago, to supply us with valuable and, in proportion to their population, with considerable contingents for service over seas.

"The old order has given place to the new. The old Royal Army, recruited exclusively in the British Isles and India, has passed away. It is an Imperial Army with which our legislators will have to deal; an Army of which the Colonial forces will form an integral part, in which hundreds of regiments of unfamiliar names—the Young Guard of Canada, Australia, and New Zealand—will stand side by side with those whose names are household words."<sup>1</sup>

It may reasonably be hoped, too, that in a few years' time, when the racial animosities of Briton and Boer are merged into devotion for the common cause of the European in a land where the white man is outnumbered by the native, South Africa will follow suit. The Militia system was adopted by Australia in 1903, and by Canada about the same date. The keynote of the system in both Colonies is the same, and is that the periods and conditions of training for the whole force are made as elastic as possible, and have been so arranged as to give ample latitude to meet local requirements, and to interfere as little as may be with the civil occupations or professions of the well-to-do and intelligent citizens who form the backbone of the force.

The success of the system lies, secondly, in the organisation in complete form of the larger military units, and the strict territorialisation and allotment of complete brigades to defined districts. These brigades are thus identified with their representative contribution to the defence of the whole nation. Officers and men organised on this principle bring to their Corps all the cohesion, feeling of comradeship, and local association, which are so essential for ensuring the highest standard of discipline in the field, and of gallantry before the enemy. "Thus," writes General Hutton, "each individual soldier feels that upon him rests, in bivouac and in battle, the responsibility of adequately representing his friends and kinsmen, and of doing honour to his own name and to the fair reputation of his own countryside."

At home the outlook is less promising. The Auxiliary forces, as we at present know them, gain the approval of neither party. They stand in the way of compulsory service, and are therefore anathema to all those who desire this easy and unheroic short-cut to the solution of our difficulties. To make them really effective for war, on the other hand, they would need more organisation, better officers, and the provision of transport, and these things require an increased expenditure for which the present authorities despair of getting Treasury sanction, and are naturally unwilling to provide out of the funds otherwise available for the Regular Army. The Militia, whether rightly or wrongly, has come to be regarded merely as the handmaid or preparatory school for the Regular Army, and no attempt

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<sup>1</sup> "The Science of War," Colonel Henderson, p. 380.



whatever has been made to combine its scattered units of all arms into anything like an effective field army. As regards the Volunteers, recent methods of dealing with them have not been encouraging. The idea is that if the Volunteer will not conform to certain official regulations, the country can well dispense with his services.

Attempts have been made to apply cast-iron standards of efficiency to forces whose essential character demands elasticity of treatment, and the only result has been the loss or exclusion from them of many of the most valuable elements of potential strength in the country. The Auxiliary forces have been cramped and twisted to fit a system, instead of the system being constructed to fit the peculiar and inevitable conditions of a citizen army.<sup>1</sup>

The desire—made, we believe, in all good faith—to frame regulations which will tend rather to obtaining quality than quantity, has not merely been to diminish numbers, but to do so by cutting off at the wrong end so as to make reduction of quality proceed side by side with reduction in quantity. In the desire for a uniform system a uniform method of obtaining efficiency has been introduced at the cost of efficiency itself. Nevertheless, the mere fact of the continued existence of the Auxiliary forces, with even now over a strength of 300,000 men, is sufficient evidence that, by a considerable proportion of the citizens of this country, the necessity for a second line army behind the Regular standing army is recognised. There is nothing to show that, with due encouragement and proper organisation, the various component parts of the British Empire, including Great Britain, would not take upon themselves the duties of home defence, as they have already assumed the privileges of self-government.

We may thus confidently look forward to the day when the professional Army, as we now know it, and H.M. Navy, would no longer be an Army and Navy raised and paid for mainly in Great Britain, but an Imperial force recruited in every quarter of the globe, as the offensive weapon or spear in a panoply of which the home defence armies of each Colony, and of the Mother Country, would form the defensive armour or shield. As we have already shown, it is indisputable that if the King's Navy and the King's Army were no longer tied to any particular part of the Empire—except, of course, to India, where a white garrison will always be necessary—the effectiveness for strategical purposes of these formidable forces, mobile in the highest sense of the term, ready to go anywhere and do anything in co-operation with each other, would be a powerful deterrent to any Power, or any combination of Powers, who contemplated a war with the British Empire. Man for man and regiment for regiment, our Army—which, outside the United States, is the only professional long-service Army in the world—is admittedly superior to any troops in the world; and the command of the sea, if we are able to retain it, will give this Army the power of descending unexpectedly from the high seas upon any of the maritime frontiers of our enemy, if necessary of retiring again as unexpectedly as it came, or of changing its base with the same ease as Wellington changed his base in the Peninsula, or McLellan his upon the Chesapeake. If, in addition to this, no part of it is restricted as at present to Great Britain for defensive purposes, we not only enhance the fear that it will inspire, but we also actually double its effective force.

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<sup>1</sup> Lord Dundonald, "Fortnightly Review," October, 1905.



It is surely by allowing these two offensive weapons of the Empire to be employed freely and fearlessly, unhampered by the consciousness that they were leaving inadequately defended shores behind them, that the Auxiliary forces and the people, not only of the United Kingdom but of the Empire, could best assist the Navy and the Army. We do not by any means set aside the possibility of their rendering even more important assistance; for instance, by taking the field side by side with our Regular Forces in a campaign against a Continental Army.

The words of Lord Nelson in 1802, as recorded in the history of Monmouthshire, are even more significant to-day than they were when he delivered them:—"Gentlemen, I shall now speak to you as an Englishman: if ever war was again to take place, I would send every ship and every Regular soldier out of the Kingdom, and leave the nation to be protected by the courage of her sons at home."

Lord Nelson's view was in advance of his times. Ministers with less boldness and a more restricted strategical conception, shrank, on the resumption of the great war, from a too literal interpretation of his axiom. At the same time, Lord Nelson was expressing a profound strategical truth, and his conception of the military policy to be followed by an Island Power was the only true one. The growth, during the century which has followed him, of the innumerable conscript hosts of Europe, and the decline of the old professional standing armies, have not subtracted from the essential soundness of his view, but they have added to our national levies, over and above the primary duty of home defence, the further obligation to provide for the expansion of the Regular Army over seas.

## PART II.

### *Suggestions for the Reform of the Auxiliary Forces and their Expansion into an Imperial Militia or Second Line Army.*

We have now to pass to a consideration of the Auxiliary Forces as they at present exist, and how they may best be made to fulfil the functions of such an Imperial Militia. In doing so we must face the facts of the case, which are that voluntary enlistment still holds the field, and that accordingly the scheme for training must be made to fit in with the civil avocations of the men, and not their civil avocations with the scheme.

Naturally, the first point which it behoves us to discuss is the military value of troops raised under such a system. It is constantly asserted that, however laudable the efforts of the Auxiliary forces, soldiers of this kind have never held their own against Regular troops, and that an armed people, in spite of the most lofty patriotism, have always in the long run been defeated by organised armies. One might, perhaps, ask the question how we lost the United States, or what was the explanation of Garibaldi's success, but in any case, it must be remembered that the Regular soldier, properly so-called, viz., the long service professional fighting man, no longer exists outside our own country, and the numerically insignificant U.S. Army. The real question at issue, therefore, is whether Volunteer or Militia troops may be safely trusted to meet, not Regulars, but Conscripts. On this point we can do no better than quote the opinion of the late Colonel Henderson, who was well acquainted with the Auxiliary forces at

home, and, as the student of the American War of Secession, was not blind either to their merits or demerits on the field of battle.

Colonel Henderson has no doubt on the point. Writing of the American soldiers he is convinced "that in some respects they were superior, as every army of Volunteers will always be, to the Conscript levies of the European States"; and he is of opinion that "only sounder training is required to make our own citizen soldiers fully equal to the troops of any possible invader." Or again:—

"What foreign soldiers cannot, and, perhaps, will not see, is that the war in South Africa, like the war in the Peninsula and the Civil War in America, is a triumph for the principle of voluntary service. The *morale* of Conscript armies has always been their weakest point, and it is the hope that the *morale* of the Volunteer is no longer of a higher type that accounts for unwarrantable inferences and the unscrupulous manipulation of flimsy evidence. . . . If an army composed not of Regulars alone, but in great part of men with little or no special training, has proved capable in circumstances of peculiar difficulty of conquering a territory as large as Central Europe, bravely and cunningly defended, we need not yet be ashamed to speak with our enemies in the gate. . . ."<sup>1</sup>

"Voluntary service still holds its ground in the Anglo-Saxon States, and both the United Kingdom and the United States will have, to a great extent, to rely, in case of conflicts which tax all their resources, on troops which have neither the practice nor the discipline of their standing armies. What will be the value of these amateurs when pitted against conscripts? Putting the question of *morale* aside, it is clear that the individual amateur must depend upon his training. If, like the majority of the Boers, he is a good shot, a good scout, a good skirmisher, and, if mounted, a good horseman and horse master, he is undeniably the most useful soldier; but whether amateurs *en masse*, *i.e.*, when organised into battalions or brigades, are thoroughly trustworthy, depends upon the quality of their officers. With good officers and a certain amount of previous training, there is no reason why bodies of infantry, artillery, or mounted infantry, composed entirely of unprofessional soldiers, should not do excellent service in the field. . . . In any case, it is probable that battalions composed of unprofessional soldiers, the free citizens of a free and prosperous State, are little if at all inferior as fighting units to battalions composed of conscripts. . . . But the officers must be accustomed to command and have a good practical knowledge of their duties in the field. . . . A small body of resolute citizens, well armed and skilful marksmen, might easily on their own ground defeat the same number of trained soldiers, especially if the latter were badly led; but in a war of masses, the power of combination, of rapid and orderly movement, and of tactical manœuvring, is bound to tell."<sup>2</sup>

These theories were confirmed to a very great degree, towards the end of Colonel Henderson's life, by the practical test of the war in South Africa. It would be dangerous to draw too decisive a conclusion from the experience of a war whose conditions were so entirely peculiar; nevertheless, Colonel Henderson writes:—

"In 1899 the Volunteers of the United Kingdom had yet to give proof of their value as fighting men. Numerically they were an

<sup>1</sup> "The Science of War," Colonel Henderson, p. 379.

<sup>2</sup> *Ibid*, p. 37.



imposing body, and the greater number found no difficulty in satisfying the official conditions of efficiency. Those conditions, however, were altogether illusory. It by no means followed that because a man was an efficient Volunteer he was an effective soldier. His training, compared with that of the professional soldier or the Afrikaner Irregular, was practically no training at all. His opportunities of learning his work in the field were fewer even than those of the Militia. He was required to fire no more than 40 rounds annually, and his study of ground was of the most perfunctory character. His intelligence, it is true, reached a high standard, and to the performance of his military duties he brought a freshness and an individuality which was no bad substitute for experience. It was difficult, however, to overcome his initial disadvantages. Life in the British Isles, except, perhaps, on the moors and forests of the north, was, and is, no preparation for war whatever. The great bulk of the population lacked every single characteristic of the stockman, the shikarri, or the mountaineer. They were as strange to the face of the earth and all its secrets as the inhabitants of Central Europe to the sea and ships. They knew nothing of the use of their arms or the care of their horses, and to counterbalance these deficiencies they had only their pride of race, their familiarity with rough sports, and the national predilection for discipline and good order. The principle of self-help, however, is deeply embedded in the English character, and for the majority of the Volunteers self-help did offer more than had ever been anticipated by the War Office. In those regiments—and they were not a few—which were commanded by men who were alive to the nature of the responsibilities they had undertaken, and who had the gift of inspiring others, a good proportion of both the officers and men, often at great personal inconvenience, took their soldiering seriously, and gave the larger part of their spare time to fitting themselves for service against the Queen's enemies. . . . In a very short time the Volunteers were not to be distinguished, except, perhaps, that they depended upon themselves rather than upon their officers, from the Regulars. . . .”<sup>1</sup>

The Militia has been badly used; when the test of South Africa came to it, it had offered up many of its best elements already to supply the needs of the Army, and it was thus subjected to a severe test under conditions that were admittedly unfair to it. Nevertheless, although Lord Roberts complained that at times it caused him the very gravest anxiety, there are many competent witnesses to the value of the service which it performed. We need only quote the words of Major-General Sir Edward Hutton:—

“There will be many, no doubt, who will question the military value of a Militia, who will query their cohesion and discipline, who will query their degree of training and efficiency, and will even query their steadiness and gallantry in action; to such a careful study, among others, of the history of the American Revolution is suggested. ‘Taking into consideration,’ says Sir Charles Trevelyan, the latest historian of this period, ‘the quality of the Regular British Army opposed to them, some of their feats have seldom been surpassed except in legendary warfare.’ When they failed to win, an unsatisfactory organisation, an absence of qualified leaders, and a deficiency in equipment will usually be found to be the causes. It was the Canadian

<sup>1</sup> “The Science of War,” Colonel Henderson, p. 99.



Militia in 1812, who almost single-handed, in the absence of the Regular Army, not only held the southern frontier successfully, but carried the war into the enemy's country. The fighting value of the vast armies engaged in the American War of Secession, more closely resembling a national Militia than a Regular Army, has never been questioned. Their early failures were due to lack of initial organisation, of military training, and to the absence of a sufficient number of qualified leaders, but never to a lack of military spirit or of soldierly qualities in the troops themselves.

"The Militia of the United Kingdom contributed largely to the Peninsular Army, and it was said by Mr. Sidney Herbert that at Waterloo, of 18,000 line soldiers, the majority were Volunteers from the Militia. If in the recent campaign the Militia, taken generally, did not realise the expectations formed of its value, the reasons are that the force has for years received little encouragement, has had few advantages as regards training and instruction, and has been consistently emasculated by the annual transfer of officers and men to those Regular battalions with which it is affiliated. It would be unreasonable to expect a high degree of fighting value from a force thus sorely tried."

We should not be dealing fairly with the evidence on this subject without admitting that there are important authorities who disagree with Colonel Henderson and General Hutton in toto. The present Secretary of State for War, for instance, quotes with some justice the evidence of the Norfolk Commission. That Commission reported that the Militia and Volunteers are not, under present conditions, able to face a Continental Army with any prospect of success, and that owing to the unequal military education of the officers, the limited training of the men, and the defects of equipment and organisation, the force is not qualified to take the field against a Regular Army. It will be observed, however, that the reasons given by the Norfolk Commission for the inefficiency of the Auxiliary forces, if inherent in the present condition of those forces, are by no means naturally inherent in a properly organised military force. It is by no means without the bounds of possibility, as we hope to show later on, to provide remedies for most of the causes which they cite for their inefficiency. It is true enough that Lord Roberts, Lord Wolseley, Sir Thomas Kelly-Kenny, H.R.H. the Duke of Connaught, themselves would all more or less prefer some form of compulsory service which would give us the year, or, according to some, the two years of continuous training which they most of them believe would be necessary in order to train the Militia and Volunteers up to "concert pitch. (Question and answer 400, Evidence of Norfolk Commission.) At the same time, it is perhaps fair to remember that the majority of these officers have belonged to the older school of military thought, and have no great recent experience of the Auxiliary forces at home. They base their views partly on the traditional distrust of all professional for all amateur troops, and the Volunteers at least are the Volunteers as they knew them 20 years ago. The younger generation of soldiers, Sir John French, Sir Ian Hamilton, General Baden-Powell, and many others, whose names it would be invidious to mention, are much more inclined to believe that, under a proper system of organisation and reasonable terms of service, both the Militia and the Volunteers might be made thoroughly efficient without compulsion of any kind. There is

absolutely no evidence, at any rate from the South African War, to show that the representative contingents which served there suffered from any of the defects which are generally attributed to partially trained and, in the strict sense of the term, undisciplined troops. The defects of the present Auxiliary forces are many, but they are defects arising rather from the way in which they have been treated hitherto by the responsible authorities than from any constitutional weaknesses which cannot be eradicated.

A very fair statement of what those defects are, as regards the Volunteers, has been furnished to a recent number of the German *Militär Wochenblatt* by a German officer, who is clearly an officer of some experience. Briefly, his observations may be summed up under four heads:—

### 1. *The Efficiency and Physique of the Rank and File.*

On the whole the rank and file made a very favourable impression, and the progress made during the training was remarkable. Naturally, one does not look for the strict and systematic discipline which is to be found in a professional army, but the absence of this was, to a considerable extent, compensated for by the self-reliance and intelligence of the men, who fully realised the necessity for prompt obedience under all circumstances. . . . The conclusion one arrived at was that the Volunteers are able to undergo greater physical exertion than the rank and file of the Regular Army. A comparison of Volunteers selected at random with any company of a battalion of Regulars quartered in England, shows the Volunteer company to contain the better material.

### 2. *Want of Training amongst the Officers.*

Tactical movements were by no means carried out without a hitch, but the blame for this was generally attributable to the defective training of the officers. Company commanders were much too apt to rely on their sergeant instructors, and commanding officers upon their adjutants. . . . The defective military education of the officers was very noticeable in field work. The men do not lack initiative, but this quality is rarely taken advantage of by their officers. The latter, in their inexperience, take refuge too much in the letter of the drill book, while the men on the other hand act too much on their own judgment. . . . Theoretical instruction is not absent from the training . . . but the value of such training is doubtful having regard to the limited knowledge of the officer who has to instruct.

### 3. *Unreality of the Manœuvres for lack of Cavalry and Artillery.*

The Volunteer brigade is not a really organised unit at all, but simply a number of battalions put together as the circumstances of the moment permit. It lacks proper transport and supply services. No provision whatever was made for scouting or reconnaissances, though some battalions brought out a company of cyclists. It so happened that at the training which I witnessed a regiment of Imperial Yeomanry was under canvas independently in the neighbourhood, and was thus available for the tactical days, but there was no artillery at all present. . . . Without cavalry and artillery, manœuvres—



like those I witnessed—can have little or no value for the training of the senior officers against the day when these bands of Volunteers will be called upon to measure themselves with the troops of any other power.

#### 4. *Serious Defects of Administration.*

It is hard to see what place the Volunteers are intended to take in the military system of the Empire. They are supposed to be raised for home defence, but the official opinion is that a hostile landing, at any rate in considerable numbers, is out of the question . . . but whatever the function which they are supposed to fulfil, they lack almost everything which is necessary for their employment to any real purpose except their own good will. There is no recognised object in their existence; systematised administration is altogether lacking. What cavalry (I.Y.) and artillery there is, is neither sufficiently trained nor sufficiently numerous to answer present-day tactical requirements.

The verdict of this German observer is, in fact, precisely that of the Norfolk Commission. The case for the Militia is the same, only more so. The Volunteers are indeed organised into infantry brigades, and have a certain amount of manœuvre training every year. The Militia are rarely so organised and trained, and in addition have not the advantage of the superior physique and intelligence of the Volunteer Force.

In our consideration of the defects of the Auxiliary Forces and in suggesting possible remedies, it is essential to distinguish, first, between the individual man and his battalion as a whole, and next, between the battalion and the aggregate of all the battalions. As regards the individual man as a whole, we have one or two further criticisms to make. In the first place, his numbers are by no means as great as are required to meet the demands which in Part I. of this essay we have shown must be made upon non-Regular troops. The total of the Auxiliary Forces barely exceeds 300,000 men. Of these at least one-third may be ruled out as being under 20 years of age, and in addition there is absolutely no reserve. Somehow or other it will be necessary for us to raise the sum total of efficient with the colours to 500,000 men, with a Reserve of at least another 500,000 to take their place on the outbreak of war. This deficiency in numbers has a further result. Being obliged to take all we can get in the way of recruits, both Militia and Volunteer commanding officers are unable to look a gift horse in the mouth. The consequence is they are able to make no selection as they would if the whole able-bodied youth of the country were anxious to have the privilege of serving with them. The only branch of the Auxiliary Forces which has really reached a satisfactory conclusion in this respect is the Imperial Yeomanry, and here, partly owing to the pay which is offered, but more to the kudos which the Imperial Yeomanry quite justly has won for itself as the result of its work in South Africa, the regiments are full to overflowing, and a selection of the fittest recruits can be made.

A further serious defect in the Militia and the Volunteers is that the men serve for too short a period and resign too soon. We have already stated it to be our opinion that a constant training all the year round, spread over several years, with constant practice right



up to the date of active service, is better with a willing and intelligent man than the two years of close application and hard work, followed by almost complete divorce from military training for an indefinite period, which is what the conscript soldier receives. But our whole argument is cut from under our feet if, as is so frequently the case, the Militiaman or the Volunteer resigns after 3 years' service. It is gradually becoming to be more and more an accepted fact; it is, indeed, the teaching of the nineteenth century's most successful soldiers, that, given highly-trained officers and a perfect organisation, it is possible to train the rank and file as soldiers in a very limited time; but no one will venture to maintain that the preliminary drills of the Militia recruit, followed by one month's training for two years, or the 40 drills and 7 or 15 days' camp of the Volunteer recruit for a like number of years, approaches in any way to the minimum of indispensable training. The Auxiliary Force system can only be trustworthy, as far as the rank and file are concerned, if the men remain with the colours for at least 10, or at most 20, years.

At the same time, while the weaknesses in our present Militia and Volunteer Forces are indisputable, they are not beyond easy remedy. As regards the need for numbers, we believe that these could easily be obtained if the principles which we have laid down in Part I. of this essay were more readily recognised. Once it was understood that on the outbreak of war the Auxiliary Forces would be regarded, not so much as "auxiliaries," but as the National Army, on which we must depend not only for the defence of our own shores, but, in addition, for giving us those numbers which alone can turn the balance of victory or defeat in the struggle over-seas, we do not believe that there would be any lack of recruits. Such a change would at once raise the Auxiliary Forces from the second-rate position which they now hold. It would be looked upon as an honour to serve in a force that was kept for fighting, instead of as now for an object which nobody—and least of all the Auxiliary Forces themselves—would be able to define.

In the next place, to secure the retention of the senior men in the ranks, all that is required is a complete change in the point of view at headquarters. It must be more readily recognised that as a man approaches to the prime of life the more valuable he becomes in his civil employ, and consequently the greater are his responsibilities and the demands made upon his time. But this responsible citizen in the prime of manhood is exactly the material we require for an Army which depends upon *moral* and serious patriotic purpose rather than upon barrack square discipline. Regulations, therefore, which demand of the private soldier, whether in the Militia or in the Volunteers, periods of continuous training, or even fixed numbers of drills within stated periods, are utterly mistaken as having the effect of driving the busiest, and therefore the best material, out of the force. The Militia—in old days a truly county force, representative of the best elements in the county—has now become merely a refuge for the casual labourer. In the Volunteers, too, compulsory camps, however beneficial in the abstract, have only had the effect of driving manhood and class away from the force. A mere glance at the Volunteer strength during the past few years will show us two striking facts in corroboration. In the first place, the corps which are most numerous and most flourishing are those which are recruited

amongst the labouring classes. The corps where the decline in numbers is the most marked are the corps which, in accordance with the early Volunteer traditions, still attempt to recruit from the middle classes. Secondly, as one would naturally suppose, in every county where the Volunteers are the strongest the Militia are the weakest, the obvious explanation being that the class of men who were formerly able to devote a month's continuous training to the Militia are now forced by the change in industrial and social conditions to forego such service in favour of the drill once a week and the camp once a year, which is offered to them as Volunteers, and which is the only form of soldiering of which their civil employment will allow.

These difficulties point, moreover, to a certain variety in the conditions of training which suit various districts and various classes. We have all heard of the protest raised by some of the Metropolitan corps against the 15 days' camp; yet for many Volunteer corps recruited in the country the extended period of camp training has not only been found possible but has been warmly welcomed. In certain mining districts, again, the form of training best suited to local employment is the month of continuous training under a Militia system. The variety of conditions under which men may be obtained for the Auxiliary Forces in different parts of the country points at once to at least one very practical reform. This is the abolition of the distinction between Militia and Volunteers, and the formation in their place of reserve or second line battalions of the Regular territorial regiments, the new distinction between the several battalions being one, not of form, but of times and conditions of service. In every county there would probably be found men who would prefer to join for a month's training every year and 11 months of civil life; there would also be others who could do a 15 days' camp and weekly drills under present Volunteer conditions; others, again, might be able to manage the drills but not the camp, and *vice versâ*. Nor should it be impossible to arrange for the case of a man who, as time went on, found that the times and service which suited him best were not those of the battalion in which he originally enlisted. It should be made possible for him to be drafted from the battalion which did the month's training to that which trained once a week all the year round, and it is not inconceivable that cases might arise where a man who had enlisted for weekly drills came to find that the month would suit him better. The ideal organisation would be that which permitted a boy to join a battalion whose recruits did the six weeks of preliminary training which is now demanded of the Militia, that after serving a year or two here he should be able, while remaining in the same regiment, to join the battalion whose conditions of training approximate more nearly to those of the Volunteers as we now know them. Finally, when the calls of his civil employment and of family life became too urgent to allow even of this, it should be possible for him to retain his name on the books for mobilisation in the case of grave emergency, and to come up for such drills as he could manage, or even for mere rifle practice.

Looking at the life of the average artisan or middle class man from 18 to 30 years of age, it is probable that in addition to being ideal, such a system would be most practical. It is in youth that the greatest amount of time can be afforded, when the value of the training is also greatest, and with increasing years and increasing re-



sponsibilities the need for drill and training becomes less pressing, as it becomes less easy to comply with. What we must look to as being far more important than such efficiency of the individual man as may be obtained by peddling regulations requiring of him a minimum of drills throughout the whole period of his service, is the attraction of every possible man to the colours for such service as he is willing and able to give, and, above all, his retention in the regiment with which he is familiar, and to which he feels himself to belong, for emergency in case of war. In this way, and in this way only, can Colonel Henderson's demand for an Auxiliary Forces Reserve be realised. Speaking of the faults of organisation which led to such a grave shortage of men during the South African War, Colonel Henderson writes:—

“The further expansion of the Regular Army was perfectly possible. The Militia, the Yeomanry, the Volunteers, and the Colonial Forces not only provide an immediate reserve of nearly 500,000 men, but might, under a comprehensive system, have furnished a secondary Reserve of as many more at an exceedingly small price. It was here that the system of 1899 was so defective. Expansion of the field forces on service over sea was almost the last thing thought of. An active Army of 100,000 was the limit of Britain's armed strength, *i.e.*, an Army just half the strength which fought against Napoleon, when the population of the United Kingdom was 14,000,000, as against 40,000,000. The remedy lay in the organisation of the Secondary Reserve. Not a man who had borne arms, whether in the Regulars or the Auxiliary Forces, should have been suffered to disappear into civil life. Every trained soldier should have been registered, and cadres should have been established in which every veteran who was still willing in case of emergency to serve his country should have been enrolled. There was no need that these men should have been called out for training; a small retaining fee would have been enough to give the Government a lien on their services. It would thus have been possible, when the demand for more troops came, to lay hands at once on men of some experience, to assemble them and to equip them through their cadres, and at the same time to enlarge the military departments—Medical, Supply, Ordnance, Remount—in proportion to the enlargement of the Army. It was not that the importance of organisation had not been exemplified of recent years. The War of Secession, the People's War in France of 1870-71, Cuban War of 1898, all told the same tale. McLellan's great Army of 1862, Gambetta's levies on the Loire were equally impotent. Want of organisation was even more fatal than want of discipline, and vast masses of men admirably equipped and animated by the highest patriotism, fell a prey to inferior forces, not because they failed in courage, but because their training was below that of their adversaries—their corporate existence was the shortest, and their organisation incomplete.”

It will be obvious that we should still further add to the efficiency of the men if we were able to inaugurate some such system of compulsory military training, or at least of compulsory rifle shooting for all boys between the ages of 12 and 16, as Lord Roberts is now advocating. Indeed, the basis and the starting-point of any scheme for a large Volunteer Citizen Army must be the military training of boys.



The citizen soldier has so much to learn and so limited a time in which to learn it, that as much as possible of the preliminary work of soldiering should be acquired while he is still a boy, leaving the more advanced military training for his mature years. It is an easy matter for a boy to devote a good deal of time to drill and shooting in a cadet corps; it is a far more difficult thing for a busy man to give up his time to such work. Perhaps the greatest difficulty of all—that of obtaining the requisite time in the Auxiliary Forces or adequate training in rifle shooting—might be overcome. There is no difficulty in the Auxiliary Forces in securing a sufficient amount of practice to keep up a proficiency in rifle shooting which has already been obtained; but in many cases time is altogether wanting for a careful rudimentary instruction for those who have never handled a rifle before. If this rudimentary stage could be passed in boyhood the man could then proceed to advanced practical courses of field firing under Service conditions. The theory of military discipline also is much more easily absorbed in boyhood than in manhood. It is obvious, therefore, that if cadet corps were officially encouraged in this country on such lines, the result would be that a vast recruiting field would be formed for a voluntary Citizen Army. Those who entered its ranks would be already familiar with more than half their work, and would be in the best position to take the fullest advantage of the training before them. Every recruit would be a graduate of the cadet corps, and even officers and non-commissioned officers would be found almost ready-made. Outside the military question, the great advantage of this system of compulsory training of boys in the rudiments of drill, discipline, and shooting, is that it is no new departure, and that it appears to be in keeping with the prejudices of the race. It is already in full working order as an essential part of the Imperial Militia systems of Canada and Australia.

To sum up, as far as the man himself is concerned, we have no fear that voluntarily enlisted citizen soldiers can, with due encouragement and a wise development on the existing system, not be readily obtained in the numbers, and show that efficiency which would be required of him. It is immaterial whether we are to call our Home Defence Army by a new name or no; what is desirable is that there should be only one second line Army, and that every individual should be encouraged to enlist in that Army. He should be unable to excuse himself on the ground that the conditions and times of training were impossible for him, for there should be an endless variety of conditions to suit the idiosyncracies of every man and of every trade. By these means, although their training would be voluntarily submitted to, it should become so general as to be practically universal, and a man who refused to submit to any training at all should be classed with passive resisters and anti-vaccinationists and other such contemptible faddists. But though the second line Army should be open to every man who is ready to do any service at all, the cost to the State should be dependent upon the amount of work that he does. What those rates of payment should be should be settled by the military authorities. It would probably be easy to set down a man's efficiency in terms of his money value to the State. We do not desire to lay down any hard and fast ruling on this point, but we suggest, in order to illustrate our point, that something like the following rates might be paid:—

1. For 6 months' preliminary drill - - £20
2. For a month's training only - - £15
3. For 30 drills per year under present  
Volunteer conditions, the annual  
course of musketry, 15 days' camp £10
4. For ditto, with 8 days' camp - - £7 10s.
5. For ditto, with no camp - - - £6

The whole of the above payments would not, of course, go to the individual man, but a sufficient sum would in each case be available to compensate him for any loss in his civil employment, after providing for the cost of his equipment and training. Payments would be made to the officer commanding the Territorial Reserve regiments (of several battalions), and the proportion available would be distributed by him to the men. In the General Reserve (500,000 men) would be included both those who at present resign from the Auxiliary Forces and are lost absolutely to the State, and those who are at present known as members of rifle clubs. In the course of time there is good reason to hope that there would be few members of rifle clubs who had not passed through a proper training beforehand. If the scheme for the compulsory training of boys is realised, this would naturally be the case as regards their boyhood, at any rate; but at present it would be undesirable to discourage the services, however exiguous, of any man who is willing to offer them, and the only extra demand that would be made upon the present members of rifle clubs would be that they should sign an engagement to come up for training at the dépôt of their local territorial regiment after the embodiment and mobilisation of those actually with the colours. In this Reserve, too, a place might well be found for civilians who would be of the greatest value on mobilisation in the Departmental Corps. There are large classes of men who would be of great value, more especially in the medical services and those of transport and supply, without having received any military training at all, and there would be no objection at present in addition to the enrolment in every county of a special corps of civilian guides. For this Reserve a State payment of 10s. a year per head to the officer commanding the Territorial Reserve regiment would probably be economically spent.

The essential feature of the whole scheme is the ready encouragement of every form of service that is offered, with the steady resolve to make the utmost possible use of it. If this resolve were generally recognised there is every reason to hope that the offers of service would every year be more genuine and more extensive.

There is one further feature of such a system which cannot be too strongly emphasised. In no scheme for universal compulsory training that we have yet seen has the question of cadres and organisation been dealt with. The advocates of compulsory service are ready enough to brave the practical difficulties of continuous training and to scorn a system which endeavours to make it possible for that training to be taken in the stride of every-day life; but if they are willing to copy the Continental system as regards the individual they have not yet faced the Continental system as regards the cadres and the officers. Now it is indisputable that trained men without cadres are less valuable even than untrained men with cadres. If the Auxiliary Forces as we at present know them provide us with nothing more,



they provide us with cadres, imperfect and unorganised though these may be. By associating every citizen under training with the cadre of his territorial regiment, and teaching even the rifle club Reservist to regard himself as a member of that regiment, we are approaching universal service in the only practicable way in which it can at present be approached, viz., through the cadres of the existing regiments of the Auxiliary Forces. It is not so much the amount of training which the individual man receives as the military organisation of which he forms a part that is of the first importance, and there is surely a certain value in the military organisation which we have sketched. A territorial regiment as a second line Army would thus contain three or four battalions; the ranks of the regiment would be open to all classes of service, but the men offering these various degrees of service would be allotted only to particular battalions of the regiment. The first battalion would be composed of men whose training enabled them to be ready in 48 hours, the second battalion of men who would be called up simultaneously with the first battalion, and put under training night and day for a fortnight, after which they, too, would be ready to take the field; the third and fourth battalions would only be ready after longer periods of training on embodiment.

Last of all there would be the Reserve *dépôt* of men of the 10s. class, who would be equipped and sent out as drafts to fill up the gaps in the other battalions. It is idle to argue that no time would be given us by a condescending enemy for this additional training after the outbreak of war, which could alone render three-fourths of the Home Army fit to take the field. Fortunately in any war in which we are likely to engage we are certain, from the nature of our geographical position, to have a long period for preparation at our disposal before our Field Armies take the field.

We have already pointed out in Part I. of this essay that during the period when invasion would be most possible, that part of our Regular Standing Army which is not on garrison duty abroad but is held in reserve for offensive over-sea operations, will be retained at home. It is also an undoubted fact that, in the case of India at least, many months must elapse before the Russian armies have penetrated to the defensive line which our armies are likely to take up.

This point, which has hitherto appeared very largely to have escaped our notice, is admirably brought out by Colonel Callwell:—

“The sea, in the early days of some great war, affords no sanctuary to the army crossing it against the machinations of the foe. There is nothing gained by the power to place troops in line of battle faster than they can be despatched to the theatre of operations. The rate at which troops can be mobilised in condition fit to take the field depends upon their relative state of preparedness for war in time of peace; but it is the troops maintained in a high condition of efficiency in time of peace who cost most money, and who, when the element of time is taken into consideration, may give least value for that money. The element of time is a factor of paramount importance, and it governs the situation. If time be available, if, from the conditions of the case, it must be available, troops maintained in a state of comparative efficiency in peace can be raised to the highest standard before they are wanted. The troops of this class are, if properly organised for the functions which they have to fulfil, far cheaper than those kept fit for action at a



moment's notice. An insular Power, which frames its military system with a view to the immediate readiness of a great army for service over sea, is organising what it does not want, organising what it cannot use, and is squandering its financial resources without adequate return, owing to a misapprehension of strategical conditions; but, on the other hand, the very fact that military forces are necessarily delayed by the circumstances of the case in reaching the scene of action may be prejudicial to their prospects when they get there. The enemy may have benefitted by their tardy appearance, and may have gained advantages, strategical and moral. Therefore, the army crossing the sea should be well supported, the machinery should exist to swell its numbers liberally from time to time in so far as maritime conditions permit of it. Behind the force first despatched to the theatre of war there should be abundant reserves, and there should be ample cadres in the second line, which, while waiting for their turn to proceed on service, are progressing from a rudimentary acquaintance with the soldier's art towards that standard of efficiency which troops must possess if they are to make their mark in the face of the enemy. An insular Power should in fact base its military system on the principle of having many categories in a progressive stage. The corps in the first category may be ten times as efficient at the moment when war breaks out as the corps in the fifth category, and it will probably cost ten times as much in peace time; but the organisation should be such that by the time the fifth category is required its component parts shall have attained the standard of excellence which is expected in the Regular soldier, and that they shall be able to take their place in line of battle with credit to themselves and honour to their country."

It is towards the provision of such categories that the above suggestions have been made.

In passing from the question of the individual man to that of the officers and non-commissioned officers of the second line Army, we must deal very briefly with the vexed question of discipline. The prevalent view in most Armies of the world is that troops can only be brought to face the terrors of the battle-field if they have been submitted to a hard schooling, in which they learn of an iron authority, which it is death to disobey. It is believed that what is called discipline can only be obtained by a system of polish and pipe-clay in the barrack-pard, enforced by a strong code of punishment. No doubt an Army serving under the conditions which we have sketched above would not be submitted to this system in all its completeness; but is there any reason to suppose that the result would not be the same? The kind of discipline which we should look for in such an Army would be the discipline of self-respect, of the sense of a moral obligation to fulfil a duty voluntarily undertaken, the discipline which is produced by the influence of loyalty and patriotism, which is best defined by the Japanese word, "Bushido." After all, we have the authority of no less a person than Prince Hohenlohe for declaring that the old ideas of discipline are changing, "that which in former days was begotten of fear of the stick is now born of trust, with this difference: that its effect is more lasting, since in former times, when the fear of the stick vanished, discipline vanished also."

In short, though this question is one which it is exceedingly difficult to argue, there is no real doubt that the cohesion and dis-

cipline of any regiment depends far more upon the quality of its officers and the respect in which their men hold both the officers personally and also their competence to lead them in battle. There is no reason whatever why there should not be as much trust and mutual confidence, lasting till the *ultima ratio* of the battle-field, in a unit of voluntary soldiers as there is in a Regular unit. There will, as Colonel Henderson has shown, be at any rate a great deal more than there is in a conscript unit, that is if the officers of the Auxiliary Forces are brave gentlemen and efficient soldiers. "Discipline," writes General Skobelev, "should be of iron, but it should be established by the moral authority of the individual officer and not by means of his fist." What we look for in our Reserve Army are big battalions of physically fit men, led by trained officers and gentlemen, and brought into the field with perfect mobilisation and Staff arrangements. By raising the hotly-contested question of discipline we bring ourselves, *ipso facto*, to a consideration of officers of the Auxiliary Forces, for it is upon the officers that the discipline depends. Their officers and non-commissioned officers are indeed the weakest joints in the harness of the Auxiliary Forces. They are neither numerous enough nor sufficiently trained. They are equally wanting in the Militia and in the Volunteers; indeed, the supply of them is growing smaller year by year. It has been calculated that the total shortage of educated officers to fill the junior commissioned ranks of our existing military forces is over 7,000. How, then, are we going to remedy this shortage, and, having remedied it, how are we going to train the officers we get? Once more, as is the case with the men, compulsion being for the moment out of the question, our only possible method is the intelligent sympathetic treatment of the patriotic sentiment in military possibilities of the country.

The country as a whole, and the leisured classes in particular, do not take the Auxiliary Forces seriously. In order to educate them towards a better understanding, we can do no better than go to the main educational bodies—the public schools and the Universities. The Universities and public schools now supply all our administrative services and most of the professions, and would as readily supply us with officers for the Reserve Army if they could be really induced to believe that such service was a necessary part of the duty of every citizen. We believe negotiations are already on foot with our leading Universities for the realisation of a very practicable scheme to this end. Under this scheme the existing University Volunteer corps are no longer to be battalions of all ranks; instead they are to be converted into corps of cadet officers. Nor are the inducements to the undergraduates to be patriotic only. For a sum of £90,000 only it has been calculated that payments might be made which would give us an output from the Universities of 1,000 officers a year, with the additional advantage that these officers would come to the Auxiliary Forces with a considerable knowledge of their military duties. A payment of £10 a year for six years, and of £30 in the last year of the University course, would, it is calculated, induce a sufficient number of undergraduates, in addition to putting in a sufficient number of drills and an adequate amount of camp and manœuvre training with the university cadet corps, to attend a course of lectures each term on the theoretical side of their military duties. The terms of engagement would be for yearly periods up to six, the pay for the preceding year's service being only due to those who would sign



on for the following year. After leaving the Universities, men will be thus bound to serve for three, or, in the case of fourth year men, for two years, either in some branch of the Auxiliary Forces or as supernumerary subalterns *à la suite* of Regular regiments. After the six years no man would be bound to further service, but there would be reasonable ground for supposing that the majority of them would have seen enough of the conditions of service in the Auxiliary Forces to realise the great value of the work that they might do by remaining with the regiments to which they were originally attached. In this way, whereas out of 1,200 Volunteers at Oxford and Cambridge alone, a quite insignificant proportion at present pass into the existing Auxiliary Forces, it may be reasonably anticipated that provision would be made for an annual supply of at least 600 officers, who would permanently take up their duties in the Militia, Yeomanry, or Volunteers. If this hope is realised it will at last become the habit of the over-leisured classes of Great Britain to take an active interest in the military welfare of their country, and the back of the officer difficulty would be broken.

As regards the question of non-commissioned officers, the supply of good candidates for appointment as Militia or Volunteer sergeants has been rapidly diminishing of recent years, for the same reasons as those which have caused the deterioration in class. Owing to the growing abstention of the lower-middle classes from service in the ranks, it has become increasingly difficult to find amongst Volunteers men who, while proving themselves competent soldiers, are able personally to command the respect of their men; in the Militia it has long since been found impossible altogether. To get good non-commissioned officers therefore we must apply the same remedies as we have already suggested for obtaining more and superior recruits for the rank and file. It is only by taking the Home Defence Army or Imperial Militia seriously, and by assigning it a definite place in the military organisation of the country—so definite that its functions will be obvious to the whole country—that we can really expect a people who are not wanting in patriotism but are not perhaps blessed with a too vivid imagination, to make the sacrifices which patriotism demands of them. In addition, it will probably be necessary to make some considerable augmentation of the pay which the non-commissioned officer at present receives. Probably the best immediate remedy—and the need for qualifying non-commissioned officers in the Auxiliary Forces is very pressing and very urgent—will be found in the adoption of some such system as that which a recent anonymous writer, “Aldebaran,” has suggested for the Regular Army. The creation of a separate class of under-officer, who would stand between the commissioned officer, on the one hand, and the plain non-commissioned officer on the other, would be more suitable for the Auxiliary Forces than it would be for the Regular Army. There are many superior and intelligent men—every Militia and Volunteer commanding officer knows them—who, while not quite fitted by their position in life to receive commissions, are at the same time unwilling to aspire merely to non-commissioned rank. The creation of this new class of under-officer, somewhat after the model of the Armies of France and Germany, would undoubtedly tap a valuable class, which has been largely unrepresented in the Auxiliary Forces since the early days of the Volunteer movement. It would be probably inexpedient to increase the number of staff-sergeants. Even as it is, the



present non-commissioned officers of the Auxiliary Forces are too apt to depend upon the staff-sergeants and too slow to learn to stand by themselves, as they inevitably must do if they are really to be worth their salt.

Having now suggested the means whereby we can supply the officers and non-commissioned officers for the Imperial Militia, we have next to consider the means by which they are to be trained. We are aware that some authorities hold that this is a problem which is impossible of solution. They argue that the limited time at the disposal of the civilian, and the pressing calls of his own private affairs, entirely preclude him even from acquiring the elementary knowledge which is demanded of a subaltern, let alone of a company commander. They point out that in these days the officer has not only to drill and lead his men, but he has also to instruct them, and that it is quite absurd to expect that the Auxiliary officer can possibly acquire the necessary knowledge as an instructor. This at any rate is not the opinion of Colonel Henderson:—

“If a strict system of rejection were to eliminate from the ranks all, whether officers or men, whom indolence, indifference, or physical incapacity render unfit to bear arms, leaving only men of the same stamp as those who now, whether at Schools of Instruction, brigade camps, Easter manœuvres, and the meetings of Tactical Societies, seize every opportunity to increase their knowledge, we might endure without anxiety even the absence of a large part of the Regular Army beyond the seas. The weak point of the Volunteer force is the dearth of well-trained officers; but the zest with which good Volunteer officers undertake their duties is in itself sufficient to ensure the rapid mastery of these duties. With work, which is half a pastime wherein they find relief from the routine of their ordinary avocations, monotony has no place. The very freshness of their application is attractive of zeal and industry; nor are they burdened with the thousand details of interior economy which occupy so largely the time and energy of the professional soldier. They can give almost every hour which they devote to their military duties to preparing themselves for the business of a campaign. They can bestow their whole attention on what is assuredly the most interesting, as it is the most important part of the profession of arms—the leading of troops on the field of battle. The Volunteer force, as at present constituted, is an excellent school of physical training; but this is scarcely the purpose for which it is maintained. Give it capable officers, trained company leaders, and an educated staff, raise the standard of efficiency, exact a physical test, and it will become the strong Army of a free people, a safeguard against invasion, and an efficient substitute for conscription. . . . I am far from believing that the possible efficiency of the Volunteer force has been exhausted.”<sup>1</sup>

No doubt a great deal can be done, and much has already been done, by the establishment of Schools of Instruction, the organisation of staff rides and war games and lectures; perhaps also by the establishment of a Central Camp of Instruction, as suggested by Lord Dundonald in the *Fortnightly Review*, to which officers and non-commissioned officers could run down whenever they had a few days to spare, and to which all must proceed for short courses preliminary

<sup>1</sup> “The Science of War,” Colonel Henderson, p. 229.

to promotion. But for the real remedy we are convinced we must look to more radical methods, the methods by which the German officer was created; these are nothing less and nothing more than the creation of a military organisation and the formation of a proper General Staff for the second line Army. They are remedies which are outside the powers of the members of the Auxiliary Forces themselves, and it may truly be said that it is to the long-continued neglect of them that the greatest defects in the present Auxiliary Forces are due. It is a truism that readiness for war is only achieved when mobile units of the three arms actually exist, not merely in paper schedules drawn up by the mobilisation authorities—a species of document which is always torn up directly the emergency arises—but in real organical association under a permanent commander invested with real authority and responsibility. Such a commander should understand that it is his duty, not so much to produce detailed criticisms of the troops under his command, as to demonstrate before the Inspecting-General that he has produced an efficient force. It is so much a truism that the only possible explanation of the long neglect to provide this organisation for the Auxiliary Forces, is that it is not yet settled whether there should be any Auxiliary Forces at all. In this essay, however, we are not asked to discuss that question; we are simply asked how we can best render assistance in the event of war with one or more naval Powers. Without organisation as Field Armies they can render no assistance at all. We are aware that somewhere in the pigeon-holes of Pall Mall there exists a paper scheme for their use; but the ground idea of this scheme is, that they should be allotted certain fortified positions round London and elsewhere, which they are to hold while the Regular Army operates upon the flanks and rear of the invaders. The scheme is an entire breach of all the known rules of war; but the framers of it would no doubt excuse themselves upon the ground that they had 300,000 troops thrown at their heads for which they were obliged to find employment of some kind, and that so long as divisional organisation or transport of any kind were denied to them, there was nothing that they were fit for except this *rôle* of passive defence. The Treasury, on the other hand, will doubtless reply, and with some force, that until it was decided what the Auxiliary Forces existed for, they were unwilling to supply the funds which would give them vitality as a Field Army. The consequence has been an absolute deadlock.

The Militia, Yeomanry, and Volunteers are three separate forces, serving under separate conditions, and with practically no connection with each other. Even within the Militia and Volunteers themselves the artillery never exercise with the infantry, and the engineers see nothing of either. They have no transport to speak of; indeed, the Militia and Yeomanry have none at all, and though the Volunteers as a whole are organised into infantry brigades, it is quite certain that their present brigadiers are not intended to lead them in war. The various branches of the Auxiliary Forces, and the various units in each of these forces, have few interests in common, are rarely trained together, and could never be formed into a Field Army with even a month's notice. They are controlled by officers of the Regular Army (O.C. grouped regimental districts, G.O.C., C-in-C., Adjutant-General, etc.), whose real duties are connected solely with the Foreign Service Regular Army, and who quite rightly concentrate all their energies upon their duties, which they regard as more



immediately important. Fully occupied with the recruitment and training of the Regular Army, they have no time to spare to a consideration of the vast problems of the Home Army, of which, in addition, they have no experience. But directly the principle is established that the Auxiliary Forces are to become the National Army, in contradistinction to the Regulars, who are to supply the Imperial foreign service troops, it is to be hoped that their formation into mobile Field Armies will follow without delay.

As a fitting illustration of our contention, that it is only by ridding men's minds of the idea that it is to the Regular Army they are to look for the home defence, either of Great Britain or of any of her Colonies, we may quote the instantaneous effect on New Zealand, in the later stages of the New Zealand War, of the withdrawal of the British Army. To-day we are seeing precisely the same happenings in Canada. During the current week we read in our newspaper that the 5th Royal Garrison Regiment, the last of the British Regular Forces in Canada, will leave Halifax for England; and it is further stated that the Canadian authorities have actually been anxious to expedite the withdrawal of British troops, and thereby to hand over their duty to the Canadian forces which are already waiting to relieve the Imperial unit, under the new arrangements, by which the Dominion of Canada becomes responsible for her own land defences.

In order to make way for the rise of a similar National Defence Army in Great Britain, and more especially in order to attain their organisation into units of all arms, all branches of the present Auxiliary Forces must be ready to submit to changes that may be distasteful to some. Both Militia and Volunteers would have to sacrifice their traditions to the reforms that the altered condition of affairs demands, whilst many Volunteer corps would have to rise to a higher level and to submit to a more rigorous discipline. What is quite clear is that the organisation of a truly National Army would mean the gravitation of the military resources of the nation towards one channel, though this channel should be wide enough to embrace all forms of service. It is unnecessary perhaps to enter into a technical discussion as to what precise form such an organisation should take. No doubt Colonel Callwell is right when he urges an organisation by divisions as being most suitable to an insular Power:—

“The cumbrous, unwieldy units of all arms which serve so well where great modern armies are pitted against each other in a purely land campaign, are out of place in operations founded upon sea command, and deriving their vitality from the power to transfer military force from one point to another by ship transport. . . . In this, the Japanese have shown the way; they have succeeded in forming up in one line of battle a mass of troops only approached in modern times at Leipsic and Gravelotte; and yet their military organisation is founded, not upon the Army Corps, but upon the Division of all arms. They have realised during their long years of preparation—and war has proved the wisdom of their choice—that an Island State, even supposing it can eventually muster forces in the field of such strength as to make an Army Corps organisation a tactical and administrative convenience, must embark on an oversea campaign with detachments of all arms framed on a smaller scale. They have learnt, not by experience but by intuition, that the essence



of amphibious strategy lies in the compactness and mobility of the forces employed. . . .”

The essence of all preparation for war is the formation of units of the exact size which will be required in a campaign. The only advantage upon the continent of the army corps organisation is, that as no army that continental nations can put into the field will be less than the establishment of an army corps, it is obviously as well to have the army corps commander and the army corps staff made familiar in peace time with the duties and with the actual regiments which they will command in war.

Colonel Callwell shows us that the case is different with an insular Power, and that although in a great war we shall eventually be obliged to place the establishment of several army corps in the field, it is unlikely that we could build up that army across the seas by more than a division at a time. It is, therefore, far better to send out 20,000 men organised completely as a division of all arms, thereafter to be augmented by another division to the strength of an army corps, than to send out this same 20,000 men, as we have hitherto done, as regiments only, for whom the whole brigade, divisional and army corps organisation must be extemporised on the field of action.

As regards the Home Army, or Imperial Militia itself, we are not certain that even the division is not too large a unit. The important thing in a military unit is that every component part of it, every regiment, and almost every officer, should be familiar with, and know the personal equation of, all the other constituents of the unit. Above all, it is vitally necessary that the general commanding and his staff should be constantly associated with every part of their command. Hitherto for the annual training of a Volunteer brigade, or for a Militia brigade, on the rare occasions upon which such a brigade has been formed, it has usually been the custom to send down any available Regular soldier who can be spared for the work. He need not have, and generally has not had, any previous experience of Auxiliary troops at all, still less any knowledge of the battalions and officers upon which he is foisted to command. Under such a captain it is not surprising if the team does not pull well together. Moreover, this brigadier is a brigadier for a week or a fortnight only, and is something quite different in the Regular Army all the rest of the year. He has nothing to do with the training of the brigade during the rest of the year, and if he has a nodding acquaintance with some of the senior officers in it that is all that he has any opportunity of acquiring.

The officer required for the real command of our organised units would be, on the other hand, one of senior rank, if possible, resident in the district itself, who makes it his business to acquire a real knowledge of every part of his unit, who should regard his duties the whole year round in assisting with their training as even more important than those of actual command in the field at the annual training, and who will not only be able to co-ordinate and organise the separate labours of each regimental commanding officer, but would also be judged and rewarded according to the amount of efficiency which he was able to produce. For such purposes of close supervision and intimate control it is possible that the charge of a division would be too great a burden for one man. In addition, it is difficult at present to see where such divisional generals are to come from. The ideal would be to appoint lieutenant-generals in the Regular Army

to such posts, with the same pay as they would receive as divisional generals in the Professional Army. This is, no doubt, the goal to which we should ultimately arrive, but at present, until the invidious distinction now drawn between the Army and Auxiliary forces is abolished, there will be few active lieutenant-generals who would not regard the offer of such appointment as a fatal blow to their laudable ambitions.

It would probably therefore be simpler to begin, in the first place, with the brigade organisation, expanding the system already inaugurated in the Volunteer Field Army brigades, with this difference, however, that the tenure of office of the brigadiers should be long enough to give them an opportunity of definite achievement, and would embrace the command of their brigades all the year round; and in the second place, that the term brigade should be expanded to mean a brigade of all arms.

We are now able to return to the problem of the training of the officers and non-commissioned officers, which, as we have already stated, can only really be satisfactorily attained through a proper military organisation. The chief duty of our new brigadier would be the training of the officers and non-commissioned officers of the brigade. He would naturally look for their efficiency to the regimental colonels under his command. Under the present haphazard system the commanding officer may effect much for the battalion, but what of the battalion that is under the command of a negligent or inefficient colonel? It is useless to shut our eyes to the fact that at present such men exist. There is no responsible authority to take note of their failings, and cases are not unknown where quite inefficient commanding officers have been granted extensions of their period of command. Their efficiency—and hence the efficiency of the officers and men under them—is nobody's business. Regulations there are of a kind, no doubt, but efficiency is not made by regulation. The business of the brigadier who is really a brigadier should be to see that inefficient officers were never promoted, or if once promoted did not long continue in command. The knowledge required for a just decision in such cases is not to be obtained by a mere nodding acquaintance in camp; it can only proceed from a constant association not only with commanding officers and their adjutants, but with every officer in each battalion. With tactical exercises, lectures, war games, staff rides, questions of equipment and transport, forms of drill or of musketry exercises, the whole system of the preparation for war as it obtains at Aldershot to-day with the Regular Army—with these and with the recruitment of officers and selections for promotion, it may fairly be conceded that our brigadier would not find time hang heavy on his hands, and from the very fact that there would be no lack of work to do, we do not believe that keen soldiers would not be found anxious and willing to take it up. Offer a brigade of the Imperial Militia to make or mar, an absolutely free hand, a recognised position, not only in the Home Army, but also in the county as the head of the county levies, sympathetic treatment and active support at headquarters, and, say, £200 a year for expenses, and we should have all the gentlemen of England keenly anxious to qualify for the berth, and as the inevitable consequence, an Imperial Militia which would soon be the envy and admiration of the world.



It will be observed that we have not necessarily excluded the tenure of such appointments from the non-professional man. A marshal's *bâton* in the knapsack of every soldier is the keynote of all attempts to obtain good candidates for the work. At the same time, while we should not exclude the civilian who was able to qualify from the possibility of rising to the rank of brigadier, it is probable that most of these appointments would require to be held by professional men.

This leads us to the question of the formation of a General Staff for the National Army to supervise its training and organisation as a thing entirely apart from the Regular Foreign Service Army. It is not likely that a very large staff would be required; but it is absolutely necessary that there should be one composed of paid professional soldiers eminent in their profession—if possible, graduates of the Staff College, who would make the problem of the Imperial Militia the work of their lives. Regarded from the proper aspect as the ultimate National Army upon which we should have to rely in any vast Continental struggle, it is far from improbable that permanent service on the Staff of this Army would be regarded as a lesser prize than Staff duties with the Regular first line forces. On this Staff, as for the appointments to the command of brigades, places should be reserved for such civilian officers as might qualify for them. It is obvious that there are many men in civil life who would be admirably qualified to serve on such a Staff, whether as representing intelligence, supply, or medical branches, and cases are not unknown where gentlemen in middle life, of high mental qualifications and abounding energy, find themselves in receipt of a sufficient competence and able accordingly to devote their whole time to the study of a profession which in earlier years they could not afford to follow. What we have to contemplate is an Adjutant-General and a Headquarter Staff for the Home Army alone, with certain representatives whose duty it would be to co-ordinate the functions of this Army with those of the Imperial Army and Navy. In this way we should no longer find the present Adjutant-General's branch straining every nerve to serve the interests of the Standing Army alone while neglecting to study, and therefore scarcely understanding at all, the problems of a Home Army, whose military importance is ultimately the greatest of all. Thus and thus alone our military problem would come to be viewed in the true perspective, and the training and organisation of the National Army would be seen to be a fitting task for the best brains that the Service affords.

As regards the fitness of auxiliary troops to perform the duties of all arms, there can be little real doubt, if we remember the true bearing of that element of time of which Colonel Callwell reminds us, that efficient infantry and adequate mounted troops can be furnished by civilian training. No doubt it is more disputable whether the duties of so highly technical an arm as artillery can be satisfactorily performed by troops of this kind. Nevertheless, there is high testimony to the efficiency of many of the existing Militia and Volunteer battalions, and when we remember the character of the armament which is supplied to them, their achievements—such as they are—are more than creditable. It may fairly be said that a fair experiment has never yet been made with a second line artillery. We believe that if it were made it would succeed, but if it did not, then this arm would have to be found by engaging the services of professional



long-service artillerymen to serve the batteries of the National Army. At present, when there is a serious shortage in the Reserve of the Regular Artillery, it would seem to be obviously reasonable to try first of all whether we could reasonably depend for our second line artillery upon the services of the citizen soldier. The present moment affords an admirable opportunity for such a trial in respect that the old 15-pounder gun will now shortly be available for supply to the Volunteer forces. The gun, backed by heavy position artillery, is probably quite good enough for English warfare. There are very few parts of England where a range over 4,500 or 5,000 yards would be obtainable. The best of the present guns should be chosen and put into repair, and 50 Volunteer field batteries might thus be formed and put on their trial. Even if their actual military value would not be as great as we hope, the instructional value to all arms of the presence of artillery on manœuvres would be well worth the expenditure incurred.

Too much emphasis cannot, however, possibly be laid on the absolute need for the separation of the National and the Regular Armies, as far, at least, as their training, organisation, and control are concerned. We have already said enough to show how Volunteers have suffered from the inability of the Regular authorities to understand the real problems of the force. It is not that the officers concerned are wanting in natural capacity or in goodwill, but a man who has run in the grooves of the Regular system all his life cannot possibly be expected to appreciate the difficulties and needs of a system which is quite alien to it. Nor has the Militia suffered less than the Volunteers from its association with the Line. It has been constantly cast in the teeth of the Militia that so many men leave it annually for the Line, but this is not the fault of the Militia; it is deliberately planned by the War Office. The Militia adjutant is also depôt adjutant. For 11 months in the year he is under the depôt commanding officer, for 1 under the Militia commanding officer. His future chances in the Service depend on what he does for the Line; what he does for the Militia is of little consequence. Most of these adjutants are absolutely loyal to their Militia battalions; but human nature is human nature, and what wonder that they try to get every possible Militiaman to go on to the Line. Even more absurd is the position of the Permanent Staff. For every Line recruit which a staff-sergeant enlists he receives 4s., for every Militia recruit, 2s. 6d.; but if he gets a man to join the Militia and then induces him to go on to the Line he receives 5s. Thus a premium is placed on passing a recruit from the Militia and for inducing every Militiaman to join the Line. Nor can there be any doubt that the Militia recruit is often badly treated at the depôts. In some cases he is put merely on fatigue duties, and taught no soldiering; in most he is looked down upon and derided by the Regulars. If we are to recruit the Militia merely as a preparatory school for the Line, well and good; if, on the other hand, we are to recruit it as forming part of a self-sufficient second line Army, it is clear that it must be divorced from the Regular system.

All these difficulties—in fact all those to which attention has been called by the German critic whom we have quoted above—are to be traced, not to inherent vices in the Auxiliary Forces, but either directly or indirectly to the want of separation between two entirely different kinds of Armies. The only real solution of the problem is

the absolute independence of the Auxiliary Forces, both as regards treatment and training, and also as regards the duties which they are expected to perform, and the formation of a proper Headquarters Staff of professional men, whose whole time and whole energies shall be spent in trying to help and improve it.

The critic will say that all that we have succeeded in doing is to prove the necessity for the proper military organisation of our Home Army as if it were an Army that would be really required to fight in this country in defence of hearth and home. Nevertheless, that in Part I of this essay we have clearly stated that home defence is only a very unimportant part of the problem. To this we would reply: (1) That a mobile Field Army in existence will make any attempt at a hostile landing impracticable; and (2), what is far more important, that it is only by training all our available troops as units of a Field Army that we can give them that military education which will fit them to claim the name of soldiers at all. Our object is to train as many as possible of the physically fit members of the population, and to attempt to train them in any other way is farcical. This is more important perhaps as regards the officers than it is as regards the men, and it must not be overlooked that directly we proceed to organise large numbers, the supply of professional soldiers that will be forthcoming will be inadequate. Even as it is, the sources of supply are drying up for the Regular Army, and the time cannot be far distant when we shall have to do with fewer and more highly paid professional men, supported, in respect of the Auxiliary Forces at any rate, as all Continental Armies are supported, by reserve officers from the ranks of the civilian professions and classes. We may even look forward to the time when the Army will no longer be the happy hunting ground of the man of independent means, who requires some occupation during the early years of his life, but will become instead the preserve of the strictly professional man. When this day comes, unless we are able to show a Home Army which is an Army in being, with definite functions to perform and a real military training to offer, we shall lose altogether the services of those desiring partial employment, but are more and more unwilling to take upon themselves the arduous duties entailed by their acceptance of commissions in the Regular Army.

We now come to the last and most important feature of the scheme: the provision of a large National Reserve. Lord Roberts has told us that "it is our duty now to make such arrangements that when the emergency occurs there may be a sufficient number of properly trained and organised men in this country to meet the military wants." In order to obtain this end there is, in his view, no option but to introduce universal compulsory service for home defence. We have advocated the provision of nearly the same number of men without compulsion. The reservoir is there; the question is: What is the quantity of the supply that we can draw from it? Two courses are open to us: The first is, to leave it to chance as to the number of men who will be forthcoming for service abroad at a time of crisis. In this case whether enough men go to the seat of war or not will not merely depend upon the will of the nation at the time, for not even the will of the nation will be able to bring in compulsory service upon the top of the Volunteer system; it will depend rather upon the will of the men themselves. There are those that have sufficient confidence in the patriotism of the people



to believe that all the men that we require will be forthcoming, and the experience of the South African War certainly confirms this view. Out of a Field Army in South Africa of a total strength of 448,000, 5,659 officers and 141,257 non-commissioned officers and men were provided from the Auxiliary Forces at home. In addition, there were 52,000 over-sea Colonials, and some thousands of men raised nominally in the Cape Colony. The whole of the Militia volunteered to go, and it has been recently ascertained by an enquiry set afoot amongst Volunteer commanding officers that in the first year of the war, 71,758 Volunteers, out of a total strength of 204,743, similarly offered their services. If, however, we do not think it safe to trust absolutely to chance, in spite of this highly creditable and reassuring precedent, such reserve as we consider to be absolutely indispensable could be readily obtained by the offer, from year to year, of a sufficient bounty. A definite reserve could thus be formed for the Regular Army, ready to turn out at once if necessity arises. All that would require to be done would be to take advantage of the thousands of young men who would, for such a bounty, enrol themselves every autumn for a liability to join the First Reserve of the Foreign Service Army, if need be, at any time during the following year.

A further development of the system of a Territorial Reserve regiment with several battalions, which has been outlined above, would give us in each regiment a first battalion of such men, complete in every detail, and ready to go to the front at any moment as a battalion unit. The amount of the bounty that would need to be offered would be less than the reserve pay now given to the two years' service men, and need not, in any case, exceed £5.

As regards the total cost of such an Imperial Militia as we propose, it will be sufficient to append the following rough calculations:—

50,000 men doing 6 weeks' continuous training a year, at £20 - - -	£ 1,000,000
100,000 men doing a month's continuous training, at £15 - - -	1,500,000
100,000 men doing a fortnight's camp, a musketry course, and weekly drills all the year round, at £10 - -	1,000,000
100,000 men doing the same training as above, but with 7 days' camp, at £7 10s.	750,000
150,000 men doing the Volunteer training as at present known to us, but no camp, at £6 - - -	900,000
500,000 men on the General Reserve, doing little more than what the member of the rifle club now does, at 10s.	250,000
Total - - -	5,400,000
Training of officers - - -	80,000
Provision of Transport and Professional Headquarters Staff - - (say)	500,000
Total - - -	5,980,000



It may be observed that the present cost of the Militia, Yeomanry, and Volunteers, totalling between 500,000 and 600,000 men, is about  $4\frac{1}{2}$  millions. For the vastly increased efficiency and uniformity which might be obtained as above, with 500,000 men with the colours, and another 500,000 in reserve, all the additional taxation which would be required would be such as to produce a million and a half, or little more than an extra  $\frac{1}{2}$ d. on the income-tax. If, in addition, it were desired to require of 200,000 of the above a definite engagement to proceed on active service over seas in the second line at a moment's notice, the sum needed would be  $\text{£}200,000 \times 5$ , or exactly another million a year. When it is remembered that our present military system, which is admittedly insufficient for our Imperial needs, already costs us over 30 millions a year, this additional  $1\frac{1}{2}$  millions or 2 millions, as the case may be, would surely be well spent in giving us an absolute guarantee of national security.

#### CONCLUSION.

Whatever we do we must do it quickly. The problem of Imperial Defence brooks no delay, it cannot be solved by any makeshift at the eleventh hour. In South Africa, it is true that we did eventually succeed in "muddling through," but at what cost of lives and of treasure?

Never again shall we find ourselves involved in a struggle of a nature so vital to the security, nay to the continued existence of the Empire, where at the same time all the conditions were so favourable to an extemporised army and to a nation that possessed staying power. When war next comes, which will come suddenly, and when the naval struggle is decided, in the land campaign that follows it the blows that will be struck will be sharp, hard, and irrevocable.

Lord Roberts does well to remind us that the days of improvisation are over.

"From many of the speeches made on the subject, those who are ignorant of military matters are led to imagine that it will be time enough when the crisis arises to create an organisation which will supply all that is required, and that we need not trouble about it until then. Such speeches are very misleading. Putting our armed forces on a proper footing will take time, and it must be years before we can reap the full benefit from any changes that may be made."<sup>1</sup>

What we have, then, to provide is a land force of considerable numerical strength and complete organisation. This force need not be very highly trained; but it must be sufficiently well trained to insure the certainty of a protracted struggle, and to make it not worth while for our enemies to take the risk of a war in the certainty that, if only the Navy can be overthrown, an easy conquest is open to them. In the old days we got over the difficulties by getting other Powers, in the main, to do our fighting for us, but this is a costly expedient—witness the National Debt; and besides, there is no guarantee that we shall again be able to find the allies.

We have, therefore, to trust to our own resources. *a.* The Regular Standing Army must be strictly limited to the strength required for the performance of those duties which it alone can perform, viz., service abroad during peace, the formation of Imperial

<sup>1</sup> *Times*, 2nd August, 1905.

Police, and the dealing with small wars. But the Regular Army cannot supply the force required, either for home defence, in case of disaster to the Navy, or for such operations as would enable us to bring an enemy to terms.

What we must have then are:—

1. A strong Navy.
2. A limited Regular Army.
3. An additional land force of a strength comparable to the forces of Continental nations.

If we are driven to war such forces would guarantee the safety of the Empire, and could make an effort to force a speedy and successful conclusion. In addition to this we must have at home, or at some more strategic centre for the Empire if there is a more strategic centre, "a striking force" of eight brigades, say 40,000 men, composed of Regular professional troops. Outside the Regular Army we can at present put into the field some 400,000 men only, many of them practically untrained, with no organisation and with a distressing deficiency of officers; this force is neither sufficient as a deterrent to any Continental Power, which foresees the possibility of overcoming our Navy, nor to instil into such Continental Powers the fear of retaliation should their efforts to overcome our Navy fail.

What we have to do is to create well-equipped real field armies outside the Regular forces of the Crown, a large proportion of the men composing which should, in time of war, be available if need be for service abroad. For these we can only fall back upon the voluntary services of the citizen and raise from 500,000 to 1,000,000 Auxiliary troops without undue disturbance of the civil avocations of the men composing them.

How this may best be done it has been the endeavour of this essay to show.

We do not know, and it is not germane to the subject, whether our treatment of the subject of this Essay has been exactly anticipated by those who set the question. Very possibly a discussion was rather desired as to what detailed arrangements might be made for the co-operation of the existing Auxiliary forces and the civilian population of the Kingdom with the Aldershot Army Corps, under Sir John French, and the rest of the Regular battalions at this moment stationed at home. It is possible that we have been expected to discuss the use of the civilian rifle clubs in throwing a network round an invading army, the value of the Volunteers as set down in the huge defences which have been erected around London and in various parts of the country, and of the rest of the people of this country, in emulating the heroic example of the French in the People's War. Some discussion may possibly have been desired of the "fog of war," some treatise after the example of "The Battle of Dorking"; but we have declined absolutely to regard this view of the question as a serious one.

The lesser problem cannot possibly be separated from the greater by any man who has really studied either the conditions of warfare as a whole, or any part of the strategical requirements of this country in particular.

"The defence of the United Kingdom is a matter which requires but little consideration; its solution is included in the solution of the great and more vital problems already dealt with. With a

supreme Navy capable of maintaining the connection between the different parts of the Empire, with a military system which provides a reserve force sufficient to cope with the demands of the Indian or Canadian portion, the security of the heart of the Empire will be almost impregnable. The very essence of any military system, such as our Imperial necessities demand, must be absolute elasticity, a capacity for almost unlimited expansion. With such a system there will always be a surplus available for local defence, even if we lose 500,000 men in India and the whole of the Navy in the Mediterranean.

. . . We must Imperialise our Army just as we must Imperialise our policy.”<sup>1</sup>

As the *Times* military correspondent has well said:—“For an Imperial race with the lion as its emblem, a seagoing Navy and a mobile field army are everything, and the rest nothing. It is our field army carried ever as it must be on our Navy’s back that wins campaigns, decides victories, and compels peace.”

The scheme that we have advocated for setting the Imperial Army free and providing it with unlimited powers of expansion from resources beyond its own ranks or its own reserve, may not, perhaps, reach the rare atmosphere of the ideal. Were the introduction of compulsory service possible to-morrow, compulsory service would remove many, if not all, difficulties from our path; but it may at least be claimed for our scheme, which is little more than a careful and sympathetic development of our existing Auxiliary forces, and of the patriotism which surely lurks, and can be recalled to activity, in the hearts of the rest of our civil population—first, that it is immediately practicable; secondly, that it is cheap; and thirdly, that if it could be realised, the nation whose people could voluntarily undergo such sacrifices for the maintenance of the Imperial idea, would not only be the envy and admiration of the world, but would well deserve the proud title of an Imperial Nation.

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<sup>1</sup> Mr. Amery, p. 188.



## FIFTH PRIZE ESSAY.

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*Subject:—*

“IN THE EVENT OF WAR WITH ONE OR MORE NAVAL POWERS, HOW SHOULD THE REGULAR FORCES BE ASSISTED BY THE AUXILIARY FORCES AND THE PEOPLE OF THE KINGDOM?”

*By Major J. F. CADELL, R.F.A., Secretary R.A. Institution.*

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*“ Union is Strength.”*

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## CHAPTER I.

*Introduction. The General Question of Policy and Ideals.*

NO man and no nation should ever embark on, or even contemplate, war with a light heart; but every member of a nation should feel that every possible precaution has been taken during peace in order to make war successful should it become inevitable. Every individual should work towards this end to the best of his ability.

It is a thing which it is pitiable to contemplate, that the heart of a single Briton should really feel a hopeless dread of war. But the more that is known, the more will this dread be felt, especially by those who consider carefully the magnitude and organisation of the forces which may possibly be ranged against this country, the inadequate means of defence which it possesses, and the faulty organisation that it has adopted for the forces which are available for a war.

Politicians may happily shut their eyes to facts—they are fond of playing with fire—but soldiers and sailors who know the state of affairs must feel this dread. The more they know as to the actual steps taken for defence, the more they will appreciate what are the dangers to which an unprepared nation is every day exposed.

The subject of this essay is indeed of the very highest importance to the country—one which no one dare approach without the most serious reflections. Its satisfactory solution is of paramount importance to every man, woman and child who is proud to call him or herself British born, and to all who in any way feel themselves to be directly or indirectly members of the British Empire.

To some it may appear that the British Empire exists by sufferance and on account of the jealousies of her powerful neighbours. This is not the case. There is a life in the country which demands respect. The country which held its head high from 1800 to 1815 is not one which even after many years of riches and prosperity is to be neglected. Since the latter of these dates the Empire has been more than doubled, and not without the loss of blood. This expansion has been carried out by the restless energy of her sons. But all the personal and moral qualities of the population cannot assure the continuance of prosperity and peace without an organisation for war which is suitable to the period in the world's history that has been reached. No man would now risk a fight with bows and arrows against a man armed with a modern rifle; and yet that is exactly what we, as a nation, are at the present doing. The world has prepared for war, as an assurance for peace, to an extent which it has never done before, while we Britons have carefully neglected all the fundamental principles of defensive organisation.

The co-ordination of the existing forces of the Empire into a fighting machine is no small matter. Even if we omit from our consideration all the forces which do not have their origin in the parent islands, we find that there are a great many complex questions which push themselves forward, and which have to be solved before any definite solution can be obtained.

From the soldier's point of view the study of these questions is complicated by the fact that many of their elements are political and social, rather than military, and more dependent on commerce and finance than on pure efficiency of organisation. The soldier would

like to banish all these side issues from his mind, and only treat the elements which directly concern himself. He would then make up the theoretically perfect fighting machine, which was based on the units—the man, the horse and the gun. He might imagine that by the simple process of multiplication or commutation and permutations an ideal Army could be developed, which could be brought by regulation up to any required standard of strength and efficiency.

It is needless to say that things are not so simple, and that we must also consider the local conditions as they exist. This does not mean that everything is to be sacrificed to maintain the existing order of things. Order cannot be produced from chaos without altering the state of chaos. Nor can order be made without regulations, obedience to which is insisted upon by sufficiently strong authority. The soldier would like to start his organisation in a country where the spirit of the people was so developed that the one desire was the maintenance of the inviolability of the country at all costs. It is useless to imagine that such a spirit really exists in Britain; but it is perhaps possible that it may be gradually implanted in the majority of the population. This may be a vain hope, but to attain its realisation is worth any effort.

In discussing the subject before us, which from its very nature admits of such endless ramifications, it is probably as well to be very circumspect, and, as far as in us lies, start with a process of eliminating everything which is unnecessary, and thus to avoid some preventable complications. The first thing which we can safely cut out from our consideration is a war with a single Power; we have to treat of war with one or more naval Powers. Now, since the greater includes the less, it is only proposed to deal with the subject in a way to meet efficiently a powerful combination of naval Powers. It is not meant to minimise for one moment the dangers, difficulties, and responsibilities of arranging matters which would be inseparable from a war strictly limited to a contest with a single first-class Power. Even a third-class Power has given us much trouble and some uneasiness. The organisation which strained very badly at the gnat of the Boer Republics is in no way capable of swallowing the camel of a first-class Power. We know, and are informed by the best military authorities, that we are really no better prepared for war to-day than we were in the year 1899.

It would here be invidious to mention names, though it will be necessary later to refer to some specific combination of forces in order to explain certain necessary defensive measures. This of course will be done without the slightest wish to show animus towards the parties named. It can never be urged as impossible that any particular combination should be at war with us. It is the very things that are usually considered to be the most unlikely which do actually happen. No ties of blood or of sympathy can be relied upon as absolutely binding. In fact, close relationship often seems to be a cause of war, as in the case of the Northern and Southern States of America or in the war of 1866.

The elimination of the question of a war against one Power will be a considerable simplification throughout, and it is not proposed to refer to this case in parenthesis or otherwise; it being taken once for all as granted that the means essential for the existence of the nation against a powerful combination of forces, will also be the best to secure a speedy victory over any single adversary.



In the next place it is considered advisable to eliminate from this discussion the possibility of assistant contingents from abroad, *i.e.*, from India or the Colonies, to help the main issue, except of course that India will have her own Army, a portion of which would be placed on her frontiers should the enemies be those who have frontiers nearly co-terminous with her. In no case can any serious drain be made on India for home defence, because, if that were considered necessary, it is evident that the means of bringing the Army back would not exist. It is of course possible—nay, even probable—that the Colonies would render assistance; but then some might require reinforcements, so it is better to neglect both chances in our further treatment of the subject.

The alliance with Japan is a factor only for present consideration; it is binding for ten years. Precautions necessary for national defence should be such that the seed sown now should continue to bear fruit for a century or more; few alliances last as long. Germany is at present reaping the benefit of Prussia's organisation after 1806. Again, to many it would appear that our new obligations to Japan rather increase than reduce the necessity for military efficiency on the part of the British Empire.

Though this is a military essay, and the point in the title, that the required assistance is to come from the people and the Auxiliary Forces (which latter are distinctly military organisations), would rather incline me to believe that the framer of the problem wished the Navy excluded entirely from the subject under discussion, I have found myself driven to include it to a certain limited extent. I know I am not capable of discussing naval problems from a point of view of knowledge; still, it appears to me that any war waged by Britain must primarily be naval, and probably finally naval elements will have to enter into it to great extent. It is therefore to my mind clear that to treat this subject as if naval considerations did not weigh very heavily would be the greatest possible error. I shall therefore have to venture some opinions on naval subjects, but can only claim for them that consideration which a landsman can expect for what he believes to be common-sense.

The great central idea which must be the main-spring of the administration and organisation of the forces of this country for defence and offence is *unity*. It must be felt by all that national unity is the paramount necessity and the only source of power. Unless an organism is moved by one great single ideal, it will be a failure. History is simply full of the proofs of the power of the single ideal, be it in religious or secular matters. The greatest force in the world, Christianity, is the single ideal of love. Mahomet preached the unity of God and the one Prophet—hence his power. The French Revolution had for its keystone the single ideal of Liberty, which Napoleon transformed into an egotism with the watch-word "Glory." The German rise to power is built on the ideal of devotion to the Fatherland. No nation can ever afford to neglect the single ideal, as without some ideal, which is to it the soul of its endeavour, it can never be strong, great, and victorious.

We Britons have a great and beautiful ideal, which will bring all shades of opinion together; this is the burning desire for and love of freedom. It is born in us; it is always our watchword, and though often abused and misrepresented, as other ideals — especially the

Christian ideal—have been, it is well worthy of a nation's love and veneration.

It is alone by the virtue of this ideal of freedom that we can depend upon the ready assistance of the people, including the Auxiliary Forces, for the defence of the Kingdom against any combination of forces.

I purposely place the people before the Auxiliary Forces. The people can only help our Regulars in so far as they are Auxiliary Forces in a sense wider than (though including) any mere military one. The men in uniform, the Militia, Yeomanry, and Volunteers, are little use except as citizens spurred by the love for their ideal, and as such they may be well-nigh invincible.

The vigorous preaching of the true doctrine of real freedom of mind, body, and country should do more to make the country strong, healthy, and victorious in war than any purely military precautions, because if all men could be brought to feel that true individual freedom is gained by service to the State, there would be no difficulty in getting whatever was found to be necessary in the way of service from each individual. With such a spirit existing in the country, the service required would be found to be a very small tax indeed.

## CHAPTER II.

*The Strength of a Possible Alliance against us. Force which might be Landed. Points of Attack.*

Up to this point I have only dealt with generalities, what may be called the spiritual side of the question; it is now necessary to turn to solid facts and figures and leave the poetry of the subject. It is advisable that we should discuss who are our possible enemies, and see of what offensive forces they are normally possessed, so that we may consider calmly what we may expect to have to meet some day, and what we must beat if we are to maintain our Empire and our freedom.

A serious combination of nations is possible, though it may not be very probable, because there are so many jealousies. History has also shown that where several forces combine on one side, almost automatically a counter combination is formed against it and thus a certain balance of power is created. This comes into being not so much on account of any love for the weak and the oppressed, but from a sense of fear and hatred of the too strong. For this reason, and for the sake of argument, I will suppose that the United States will remain at least neutral in any struggle, and perhaps benignly so; by which is meant that she will consider it a hostile act on the part of any enemy of ours to them, should she interfere with her commerce with us, except as regards real contraband of war. This is, perhaps, granting rather much in our favour, as it, to a certain extent, assures our food supply during a war; but without some such assurance, it is evident that we could make but a poor resistance under any system of organisation which we might adopt for our forces. This is a view which is, to a certain extent, confirmed by the committee specially appointed to deal with the subject of food supply during war, viz., that some Powers would find it to their pecuniary advantage to feed us during war, and would insist on doing so as their privilege.

The most unpromising combination which can be ranged against us, and which we should aim at being able to withstand, is that of France, Russia, and Germany. France and Russia being allies it is not very difficult to conceive that they might join against us. Our weakness and preoccupation would be Germany's chance. At the price of assisting the allies against us she might secure some of the many possessions which she covets, such as Syria. Of course, the object of all would be to make Britain pay with her possessions and the loss of her trade the cost of the war. The original cause of war would probably be the natural growth of Russia clashing with our interests.

The naval forces of this suggested coalition, and the Navy we have to bring against them, are roughly put down in the following table.

It will be noticed that I have been liberal to both Germany and Russia as regards naval strength, but it must be allowed that Germany is building a powerful fleet, and that Russia will rebuild her fleet as quickly as she can, and, when rebuilt, that the ships will all be first class.

Nature of Ship.	France.	Russia.	Germany.	Total.	Britain.	Remarks.
<i>Battleships.</i>						
I. Class .....	17	13	22	52	50	British ships have at least 2,000 tons greater size than the foreign ships.
II. Class .....	10	10	—	20	11	
III. Class .....	9	3	13	25	4	
<i>Cruisers.</i>						
I. Class .....	16	2	7	25	45	British total tonnage is double the foreign.
<i>Cruisers.</i>						
II. Class .....	15	11	6	31	33	
Smaller Vessels ..	26	5	21	52	54	
Destroyers .....	52	66	55	173	143	
T. Boats.....	300	140	100	540	200	Many of these are of little value.
Submarines .....	48	8	6	62	37	These are mostly experimental.

It is difficult to say exactly which of these two navies is the stronger. It is impossible to say which would be victorious in war. The absolute numbers favour the coalition, but they could not be brought into line with the same unity of action as the fleets of Great Britain. The strategical position of the British fleet should also be an advantage, so there is a fair chance of Britain coming out of the struggle victorious at sea. It would, however, be very unwise to consider that defeat is a thing which cannot happen to our Navy, little as we like to contemplate such a misfortune. There is no doubt that, whether victorious or beaten, the Navy would want continual assistance from the country. It will want coal, fresh armament, renewed supplies of ammunition, repairs, new ships, and above all,



an ample supply of men. The strain of war is enormous on the *personnel* of the fleet. In foreign navies they have at least two, and sometimes three, crews to each ship; doubtless, the reserve crews are not too well trained, but the actual men are available; while we have barely one crew for the whole of the ships of our Navy. Men will be killed and wounded in war, and the country must be prepared to replace them.

As the Navy may be defeated we must look to our land forces and see what they come to, also considering what strain is likely to be put upon them. In this connection we must not forget that we have a land frontier in India, and that if Russia is one of our enemies, she will not neglect to attack us in a sphere where no number of naval victories can make us invulnerable.

The action of belligerents on the outbreak of a war must be very much a matter of conjecture. But to plan some kind of hostile action may make it easier for us to grasp our requirements. We may assume that one of the most disadvantageous and perhaps the most likely beginnings of a war would be trouble on the Indian frontier with Russia. This would necessitate the despatch of reinforcements to India, and if France and Germany had not so far joined in the struggle, it would also draw a large portion of the British fleet to the East, to guard the Suez Canal, and to observe the Black Sea Fleet. The extent to which reinforcements might have to be sent to India is also a matter of conjecture, but it is evident that the more that are sent out of the country, the fewer Regular troops will be left at home for defence. If we take the limit of eight divisions mentioned by the President of the Defence Committee, there is not a complete division of Regular troops left in the British Islands. If, after this considerable force had been sent to the East, France and Germany joined in the war against us, there seems to be very little reason why their combined Navies should not be able to secure some portion of the Channel or North Sea sufficiently to ensure the passage of an army to England, capable of capturing London in a few days if our forces were what they are at present, and were organised as they now are. It is not so much the numbers that we lack, as it is both organisation and training. If our forces remain without higher organisation and proper training, there seems no reason why France and Germany should not place armies in London and dictate terms of peace at Buckingham Palace within a fortnight from the date of landing.

The President of the Defence Committee extracted some statement from Lord Roberts to the effect that 70,000 men would be the smallest army which could be landed in England with any chance of success. From some one else he heard that an army of this size could not come by sea from a single port in France for want of freight ships. But I think he must have neglected to read historical parallels. I can see no reason why 500,000 men should not be landed in England provided the situation I have supposed exists. The German mercantile marine, with 3,000,000 tons, is capable of transporting any necessary force to England in two days, the journey is only about eight hours. There are many other possible situations which would not be more favourable to us.

Let us hope, however, that the Anglo-Saxon race has still got its heart in the right place, the place where it was in 1804, when, out of a population of 14,000,000, it produced some 400,000 Volun-

teers, besides a large Regular Army. Now we have a population of over 40,000,000, what can we not do if we try?

There is not the slightest reason why the nation should not be able to place 2,000,000 men under arms. These men, if formed into armies and properly led and organised, should be able to sweep into the sea, even all the armies which two such Powers as France and Germany could place on our shores, and feed when there. But even 2,000,000 of men, be they brave as lions and swift as eagles, will do little against the trained armies of the Continent, unless they be led, trained, disciplined, and organised, so that they may become fighting bodies, not merely unwieldy masses of men. There we have our problem in a nut shell. How are we to utilise the population of the country so that it may be able to resist the invasion of the country by a large army?

It can scarcely be considered to come into the scope of this Essay to enter into details as to how the Regular forces are to be organised; what we have to arrange for is the assistance of such Regular forces as may be available, by the people and the Auxiliary forces. We have already explained that there may easily be less than a division of Regular troops in this country. For all practical purposes such a force may be neglected.

There is only one way in which the people can help the Regular forces in war, and that is by having a territorial Auxiliary Army at home and that territorial army being efficient. It would be easier to arrange for the assistance of the Regular Army if that were also territorialised, but perhaps there may be good reasons against this; anyhow, we have to take things as we find them, and we will neglect this army which may not be at home. To base our actions on its presence would be to build on sand.

Cardwell made a valiant effort to bring in a territorial organisation, and had a clear head followed him, and had the nation felt the necessity of strength, instead of believing in the fiction that weakness means peace and economy, we might have had to-day forces which would be in direct touch with the country, and which could have been easily assisted by the people.

Mutual interest and mutual trust go hand in hand. It must be the army of the people which is to defend the homes of the people. But it must be an army in a much more complete sense than the Auxiliary forces of to-day are an army. These forces must be ready for war in every way, and they must be organised in such a manner that their mobilisation will be interfered with as little as possible by actual invasion. There must be everything, men, horses, guns, transport, medical services, etc.

Invasion to be successful will either take place on the South Coast or in Essex. To start further West than Worthing, or further North than Lowestoft, would be throwing away the best chances. Therefore, in any scheme of organisation the fact must not be lost sight of, that the arrangements for concentration should be planned to meet landings in these two areas.

The Russian Army consists of some 907 battalions and 659 squadrons and about 3,000 field guns as a first line. The regular formations produce in Europe 19 army corps and 12 cavalry divisions, to which may be added 5 divisions of Caucasian troops and 3 Siberian army corps. The troops with the colours amount to nearly 1,200,000, and there are nearly 8,000,000 men trained to arms. With one line



of rail 500,000 men have been kept in the field in Manchuria. This number could easily be placed on the Upper Oxus with two lines of railway to supply them.

The Army of France is 20 army corps and 2,750,000 trained men, and that of Germany 20 army corps with 3,000,000 trained men. It would be quite easy for these countries each to mobilise 6 army corps as an expeditionary force to invade England. The only difficulties being questions of supply and transport when landed, these are made fairly easy by the network of British railways.

The North German Lloyd and the Hamburg American Lines have a fleet of 250 fast steam vessels, with a carrying capacity of nearly 1,200,000 tons. These unassisted can transport an army. They would be mostly in home ports at the outbreak of a war with Britain, if the German General Staff were not asleep.

### CHAPTER III.

*Our Regular Forces—Navy and Army. The Inadequacy of them both, especially the latter.*

The position which this discussion has now reached is this: Supposing a combination equivalent to France, Russia, and Germany were to take up arms against us, we might suffer a serious naval defeat, or our fleet might be strategically ill-placed, and that as a result of either of these contingencies it would be possible that a force of about half a million men might be landed in England while a similar army was advancing across the Indian Frontier. And that with Germany as part of the coalition against us, the difficulty advanced by some, of transporting an army of that size to England vanishes.

The Regular Forces which we have to oppose to the Allies are the Navy and Army.

The Navy has been summarised as regards ships in Chapter II. It is a very fine list of ships, and they are very fine ships, as can be seen at a glance in Brassey's Naval Annual for 1905, but it has only got 129,000 men to man it, including marines. The crews necessary for the battle-ships of the first class is nearly 40,000; for second and third-class battle-ships, 8,000; first-class cruisers, 30,000; second-class cruisers, 15,000; third-class cruisers, 7,000; destroyers, 7,000; torpedo-boats, 2,000; and submarines, 400; or a total of 109,400 men. This leaves only a margin of 20,000, which will be found to vanish when we remember that coast-guard, boys under training, etc., are all included in the Navy Estimate total. The reserve available is very small; out of a total of a little over 60,000 men shown in the Estimates, certainly not more than 35,000 would be available, and these are but partially trained. The question of the supply of a reserve of naval officers is even more important, and seems to be more hopeless than that of the men. The existing reserve would all practically be absorbed on mobilisation. Suppose that the Navy receive a severe initial defeat, many men will be lost; arrangements must be made to replace them. Ships will be damaged, but they will not be lost in the same proportion as crews will be disabled.

As regards the Army, there are in India some 75,000 European troops and about 160,000 native troops. This portion of the Army



is well found, except that it is almost destitute of artillery. At home there are about 155,000 Regulars, and in the Colonies there are another 60,000 men. The whole of these Regular land forces is not far short of half a million men. If every Regular soldier were moved to India, there would then not really be sufficient force to hold that country, with its long lines of communications, and to successfully oppose an enemy advancing from the North-West Frontier. According to existing arrangements, practically every Reserve man joins the colours on mobilisation, and thus the only reserve to the land forces is the immature youths, who have to be replaced on mobilisation.

It may be some assistance to show the Army in a table:—

*Table B.*

	No. of Men.	No. of Units.	No. of Units abroad.	No. of Units available at Home.		Remarks.
				<i>a</i>	<i>b</i>	
Cavalry ...	20,464	31	13	18	15	Required for Coast defence.
Infantry ...	167,359	166	85	87	17	
Artillery—						
Horse ...	53,072	28	13	15	15	
Field ...		150	57	93	45	
Mountain ...		9	9	—	—	
Garrison ...		109	66	43	43	
Engineers* ...	10,780	70	—	—	—	
A.S.C.* ...	7,147	80	—	—	—	
A.M.C.* ...	4,985	211	—	—	—	
Total ...	263,807	—	—	—	—	

The Royal Garrison Regiments have been omitted.

(a) Gives the units at home under normal conditions.

(b) Gives the units at home after 8 divisions have been mobilised and sent abroad.

\*These corps are not sent to India; their distribution is not at present in accordance with scientific organisation.

When the Auxiliary Forces are called upon to assist the Regular Forces in the defence of the country or in some foreign expedition, they will find one of the two conditions, (a) or (b), shown above in the table B prevails, (a) being the normal peace conditions, and (b) when an army of say 8 divisions has been sent to India or elsewhere.

The difference between the two conditions is not so great as at first sight it might appear to be. The total force which our organisation and the youthfulness of our soldiers will permit us to send out of the country is from 80,000 to 90,000. The remainder has no real military value. The whole of the existing reserve is required for this army, and as mentioned above, most of it is called up on mobilisation. It is probably just as well to neglect such a small number when we come to deal with the two million men which should be in the Auxiliary Army. To assist the Regular Army in war in the twentieth century to any useful extent, this is the force which is necessary, and which should be available. It is therefore wise to consider (b) as the condition which will normally exist when Britain has to face a coalition. If we make our arrangements so as to be strong under these

conditions, we will only be better off if more favourable conditions prevail, and we will not be open to immediate defeat if what is very probable should actually happen.

The table given above showed roughly the strength of the Regular Forces. We have an idea that these Regulars are the best of our Army, and in some ways, perhaps, they are so; but there are at present several weak points in them:—

1. Nearly one-third of the entire force is under twenty years of age, and only partially trained.
2. There are a good many old soldiers in the ranks who have done good service abroad, but who are useless for war.
3. Though, taken all round, the men are fairly trained, they are not, as a class, intelligent, and a large number are not of good physique.
4. The men are bad marchers, and are never trained to carry a heavy pack.
5. The Army as a whole has no permanent organisation higher than the regiment, battalion, and brigade of artillery.

The bad points of the Regulars are all accentuated in the Militia. The men are younger, they are not so well trained; they have no higher organisation at all, while the officers are not all that they might be either as regards numbers or training.

In the Volunteers and Yeomanry things are very much reversed. The men are, on the whole, very intelligent, but they are practically untrained, both from a physical and military point of view.

These Auxiliary Forces have one great advantage: They are territorial; they belong to the soil. They are not, however, distributed evenly amongst the whole population.

What we want is that the standard of the Auxiliary Forces should be brought up to that of the Regular Forces as regards training and physique. Then it will not matter where the Regular Army is so long as the Auxiliary Forces are organised for war. If they are then sufficiently numerous, they will become the backbone of the nation during a war. The Regular Forces will be free to be sent wherever it is desirable, and they will become what eventually they must be—the Empire's gendarmerie during peace time and the advanced guard, or India's defence troops, in war.

There is, as we know, a Reserve to the Regular Forces of some 100,000 men. This should not be touched except to bring the Army up to strength and to keep it up. The Reserve is not a very efficient force, because it receives practically no training. The man, after he leaves the colours, is only kept in touch with the Army by receiving his pay. If the people of the country would insist upon this Reserve being trained, and see that money was voted for this purpose, it would be rendering a great assistance to the Army when war comes.

#### CHAPTER IV.

*The nature of the Assistance required by the Regular Forces in the event of War against a Coalition.*

The extent of the assistance which is required by the Regular Forces to render them capable of overcoming a coalition is evidently

enormous. They are in no way a match, as at present constituted, for the defence of the Indian Frontier, if unassisted by the Auxiliaries. No war can be successful unless the offensive can be taken. The arrangements therefore which we are about to propose should be such as will make success in war probable, not well-nigh impossible, as it is under existing conditions.

The assistance to be rendered falls under several heads:—

### 1. *Assistance to the Navy.*

Our Navy's chief need is well-trained crews. The people must insist upon the Navy being as efficient in officers and men as in ships. If the men are not obtainable for the ships, laws must be made to produce them. Not only must there be full crews for each ship, but every ship should have three crews available for war; that means that there must be a trained Naval Reserve, equal to the establishment, and a further reserve of men again behind that.

The supply of officers is in no way a simple matter. An enormous addition to the present numbers is required to mobilise the fleet and to provide a reserve. The small existing reserve of officers would all be absorbed in the mobilisation of the whole fleet. The whole fleet must all mobilise at once, as our paper equality with the coalition is dependent on the ships all being put into commission at the outbreak of war. Foreign countries do not have the same difficulties about crews; they are at least safe as far as the numbers are concerned. The first question for us is: Where can a further supply of officers be obtained. There are three kinds of officers; there are the sailors, the fighters, and the engineers. It is doubtless a mistake to separate these classes too widely; but it is a necessary evil, when we have to go to the country in a hurry for our raw material. The sailors can be found in the Mercantile Marine, and probably war would make even more available for service in the Navy. The fighters—that is, the naval tacticians—can only be made by training at sea in the naval school; during war these must be promoted to take command of ships. There is no other possible reserve in the country, unless it be made by taking garrison artillery officers from their forts, an artifice which can scarcely be considered practical or likely to lead to a satisfactory solution of the difficulty; and even if these were taken they would never be fit for the executive command of ships, though they might take command of the guns in action. For the engineers there is an enormous profession to draw reserves from. Arrangements should be made in peace time to have an engineer reserve for each ship. It would greatly strengthen the Navy if these men could have some actual experience on the very ships they may have to man. The engines of the ship require knowing thoroughly, and the knowledge of engines to be thorough must be personal. The people of the country should insist upon the training of a reserve of engineer officers, much greater than at present exists.

The men in like manner may be purely seamen, stokers, or gunners. In the Navy most men doubtless learn the details of each kind of work; but when drawing reserves hurriedly from the country, there are various classes which can be most suitably drained to meet the demand. It would, however, be found much more satisfactory if the Naval Reserve were made an institution on the lines of the



Army Reserve, only better. It must be understood that the reserve is to make up losses, and not to fill up ships when they are first put into commission. The peace establishment should do this.

In treating of the assistance required by the Navy, the necessity of a supply of coal or other fuel, and colliers to accompany the fleet must not be overlooked.

Then the dockyards and arsenals must be kept fully manned, as actions will damage ships and the ordnance will become worn out and will require renewal. The service of the arsenals and dockyards should not, however, interfere with the defence of the country. All the men employed in these places should either be under or over the military age, *i.e.*, under 20 or over 40. It is of such extreme importance that the work in the dockyards and arsenals should not be interfered with or disorganised on mobilisation, that every precaution to avoid this happening should be taken. They are the very places where most work will have to be done, and which will be working overtime on things of the utmost importance to the nation. The places where this kind of work is being done will have to be guarded against raids and serious attack. This is a direct form of assistance for the Auxiliary Forces to the Regular Forces, both naval and military. Full provision will be made for this later in this scheme. The dockyards and arsenals are most important, but the commercial ports have also to be guarded, as they also may be of the greatest assistance to the Navy, while an invader might be tempted to land at a port in preference to an open beach.

## 2. *Assistance to the Regular Army.*

In the first place, the Regular Army should be relieved of all garrison duty at home. It is evidently waste of a force which has received thorough training in field duties to shut it up in a fortress, and therefore all the garrisons of our naval bases and fortresses should be found by the Auxiliary Forces. During war, gaps will have to be filled up in the Regular Forces, and these will be much more than can be met by the existing reserve, which is still inadequate. These gaps must be filled by men drawn from the people and not from the Auxiliary Forces. These drafts should be trained at the local depôts and passed direct into the Regular Forces. It is not the proper use of the Auxiliary Forces to make them assist in such matters. If they do they will become disorganised by losing much of their best material, and then not be able to carry out their proper functions, on which the safety of the nation must depend.

The Auxiliary Forces may have to supply the Regular Forces with complete units of some of the Auxiliary services to make up many of the existing deficiencies in the Regular establishment. These units should be provided complete for this purpose. There are signs that the Regular Army is being completed in these services, but the process is slow. It would of course be much better if the Regulars were self-supporting in all these respects; but until the organisation of the Regular Army is complete, the Auxiliary Forces must be prepared to meet the deficiencies on mobilisation, and at the same time not be found wanting themselves as regards these particular services.

Lastly, the Auxiliary Forces must be in a position to furnish a complete Territorial Army, organised in divisions, perhaps army

corps, ready for service wherever necessary. If any of these divisions be sent abroad, fresh formations to take their place must at once be raised from the population or the Auxiliary Reserve, so that the scheme for mobilisation for home defence may never be found to be an empty paper arrangement.

It is not possible for the Auxiliary Forces to do any of these things while the country enjoys its present state of military organisation. Later, I hope to be able to sketch an organisation of the existing forces which would enable them to come to the assistance of the Regular Forces and of the country in a most complete fashion.

It is necessary now to consider a little more closely what the quantity of the assistance will be. Firstly, as regards the land defences of the home fortresses and ports. They must be made secure by the Auxiliary Forces, or the fleet might be in danger during repair. These places all have some protection from the sea; but the land front is really the only danger. No ships will attack forts when they can be quickly taken by landing a few men to storm the works, such as they are, from the land side.

We all know that the unclimable fence is a myth, and that the only real protection for works are good parapets and ditches, defended by resolute men.

Ample garrisons are necessary. The following are roughly what is required:—

Plymouth—	
Infantry - - - - -	20,000
Artillery - - - - -	6,000
Engineers - - - - -	2,000
Supply, Transport, Ordnance, and Medical Services - - - - -	2,000
	<hr/>
	30,000
Portsmouth, a similar garrison - - - - -	30,000
Dover, a similar garrison - - - - -	15,000
Thames and Medway, a similar garrison - - - - -	15,000
Harwich, 7,000 infantry; 3,000 Artillery; 1,000 Engineers; 1,000 Supply, etc. - - - - -	12,000
Humber, 4,000 infantry; 2,000 Artillery; 750 Engineers; 750 Supply, etc. - - - - -	7,500
Forth, a similar garrison - - - - -	7,500
Clyde, garrison divided in the same proportion - - - - -	8,000
Milford Haven „ „ „ - - - - -	10,000
Ports in Ireland „ „ „ - - - - -	15,000
	<hr/>
Total - - - - -	150,000

Of the above, not more than 10,000 might be Regular Garrison Artillery and Engineers, but probably it would be better to draft all Regulars at once to the coaling stations and ports abroad, which are ill provided for, and leave the defence of the home fortresses entirely to the local Auxiliary troops. With definite responsibilities the Auxiliary Forces will soon become very efficient.

The Auxiliary Army which should be immediately available for war, besides the garrisons, is 27 divisions, complete in every detail.

Arrangements will be suggested later for increasing this force should necessity arise.

## CHAPTER V.

### *Strength and Organisation of the Militia, Yeomanry, and Volunteers.*

#### *A Proposed Strength and Organisation for these Forces.*

The Militia is composed of artillery, engineers, infantry, and medical corps. The artillery consists of 33 corps, of which one is field artillery and the others garrison artillery. These corps are practically independent of the Regular artillery. The engineers consist of two regiments of fortress engineers and ten submarine mining divisions (which latter seem to be about to cease to exist). The infantry is divided into 124 battalions, which are more or less independent, but are considered to form part of the territorial regiments of the Line. This link is more imaginary than real. The medical corps has twelve companies, and is attached to the Regular Army Medical Corps. The total strength is just under 100,000, while the establishment voted is nearly 140,000.

The Yeomanry consists of 56 regiments of four squadrons each. It is a kind of Volunteer cavalry. It is a new creation in its present form, and at present a fashionable corps, attracting a good class of youth. With an establishment of about 27,500 men it is practically up to strength. It forms the only cavalry available for the whole of the Auxiliary Forces. This force has no organisation beyond the regiment.

The Volunteers consist of all branches of the Service except cavalry. The artillery has 68 corps, most of which are garrison artillery, though there are several mobile batteries armed with old and nearly useless guns. The artillery is not organised either with the Volunteer infantry or with the Regular artillery. Some corps are allotted to fortresses on mobilisation. There are 32 corps of engineers, twenty-two of which are fortress corps, one is a railway corps, and there are seven submarine mining divisions (whose fate is likewise doubtful). There is an electrical engineer corps and a railway Volunteer staff corps. There is some attempt to weave portions of these corps into a scheme of national defence; but they have neither organisation nor cohesion. The Volunteer infantry is organised into 223 battalions, which are nominally part of the territorial regiments. The battalions vary in strength and efficiency. These Volunteer battalions are organised into 46 brigades of varying strength. There is not much power in the brigade tie, and the command is usually vested in someone who could not lead in war. There is a Transport company Volunteer A.S.C. to 37 of the brigades; there is also a Motor corps. The Medical corps has 26 companies and 32 Bearer companies. The latter are attached to 32 of the brigades and the former to the Royal Army Medical Corps in the same district. There are Cyclist companies and detachments in many of the Volunteer battalions and brigades.

As may be noticed from the above, there is absolutely no comprehensive scheme of organisation in the Auxiliary Forces. The few that are not hopelessly without aim are those detailed to fortresses in the defence scheme. As a whole, this force has only some 240,000



men on an establishment of 340,000, and is without any comprehensive military method. It is an expression of the martial spirit of the people and that is all. That so many men can be persuaded to join such a miserable service seems to be a standing wonder to outsiders. Yet it is a service which, with sympathetic treatment and management by the authorities, would save the country in the hour of need, and may still do much to save the country. War may produce an organisation out of the apparent chaos, and the Navy may give us time to weld the loose pieces into a fighting machine after war begins.

If, however, we wish to improve our chances of success in war we should make a complete plan of the way in which the Auxiliary Forces are to help the Regulars in a war, defeat in which may mean the end of the existence of the Empire. We cannot attempt to do this without first suggesting a clear and comprehensive organisation by which this assistance can be given with that degree of certainty which we may arrange. Without a complete organisation it is impossible to do anything thoroughly and efficiently.

In round numbers the following is what is at present provided by the Army Estimates for the Auxiliary Forces:—

*Table D.*

Portions of the Force.	Number of Units.	Average Strength of Units.	Total Strength.
Yeomanry - - - -	56	475	27,000
Artillery Militia - -	{ 32 Garrison }	550	18,000
	{ 1 Field }		
Artillery Volunteers -	68	725	50,000
Engineer Militia -	{ 2 Regts.	700 }	2,400
	{ 10 S.M. Cos.	100 }	
	{ 22 Fort. R.	800 }	
Engineer Volunteers -	{ 7 S.M.D.	100 }	21,000
	{ 1 Electric E.	1,000 }	
	{ 1 Railway E.	1,000 }	
Infantry Militia - -	124	800	100,000
Infantry Volunteers -	223	1,100	261,000
R.A.M.C. Militia - -	16	100	1,600
R.A.M.C. Volunteers -	{ 26 Companies	150 }	6,800
	{ 32 Bearer „	90 }	
Total - -	...	...	487,800

From the force given on Table D. we must take the permanent garrisons of the fortresses before we attempt any further organisation of a mobile Auxiliary Army.

To the garrisons we gave a strength of 150,000 men, of these one-third should be Militia, and two-thirds Volunteers. The proportion of the various arms in the garrisons may be taken as follows:—100,000 infantry; 30,000 artillery; 10,000 engineers; and 10,000 supply, transport, and medical services.

This force allotted to garrisons should not be considered as available for any other duty, and it can only be removed from the fortresses under the most exceptional circumstances. The military

urgency of the situation can scarcely ever be so grave as to warrant the loss of freedom of movement to the fleet which these garrisons are intended to secure.

These garrisons are not to be organised or equipped for field operations.

The following Table E. shows what is left of the present Auxiliary Forces when the garrisons have been removed:—

*Table E.*

Portions of the Force.	Number of Units.	Strength.
Yeomanry (Imperial) ... ..	56	27,500
Artillery (Militia)... ..	14	8,000
Artillery (Volunteers) ... ..	41	30,000
Engineer (Militia) ... ..	—	—
Engineer (Volunteers) ... ..	15	12,000
Infantry (Militia)... ..	91 Bns.	66,000
Infantry (Volunteers) ... ..	157 "	195,000
R.A.M.C. (Militia and Volunteers) ... ..	—	—
Total ... ..		338,500

The above table is also worked out on the authorised establishments, not on the enlisted or enrolled strength. The only existing reserve for these Auxiliary Forces is, except a few thousand Militiamen, the population of the country, old Volunteers, etc. These join pretty freely when war takes place, but they are either young and untrained, or old, and probably as soldiers, worn out; in neither case is the supply of any very great immediate military value.

It will be noticed on studying Table E. that this remainder is practically cavalry and infantry, all the rest being used up in the fortresses. Of the 38,000 artillery a very small proportion of it would be of the least use with a field army. There are some few surplus field batteries from the Regular Army, *vide* Table B., Chapter III., but these are really all required for India, or the Regulars in the Colonies. The mobile artillery required for the armies for home defence will be found to be some 63 Brigades, and also a considerable force of heavy artillery.

The first, most important and essential step in any organisation of the Auxiliary Forces is, to divide the country into equal areas of population; the most convenient equal areas are those which leave Scotland and Ireland as units. This fixes the population of our areas at roughly  $4\frac{1}{2}$  millions. England falls into seven such areas. I have shown on the map how I would propose to apportion the areas.

It will be noticed that there are two exposed areas, the Eastern and Southern. Only these areas would be liable to be disturbed by raids during mobilisation. Now, each area should produce a given number of men for the local defence of the country, and these men should serve in the Militia and Volunteers, but these services should consist of such units as would make the quota of each area an efficient fighting machine, and a fighting machine which is quite independent of the other areas and self-contained.

The following Table shows the proposed forces in each area:—

*Table F.*

*Force in each Area.*

Cavalry Staff ... ..	25	
6 Regiments Yeomanry at 500 ... ..	3,000	
2 Batteries of Yeomen Horse Artillery ... ..	400	
	<hr/>	
	3,425	3,425
1 Militia Division.		
Staff ... ..	50	
8 Infantry Battalions ... ..	8,600	
Cavalry, Motorist, or Cyclist Company ... ..	150	
2 Brigades Field Artillery ... ..	1,600	
Company Royal Engineers ... ..	225	
Transport Company ... ..	150	
Medical Service (2 F.A.) ... ..	500	
	<hr/>	
	11,275	11,275
2 Volunteer Divisions, as above ... ..		22,550
Area Staff ... ..	150	
Heavy Artillery Volunteers ... ..	2,000	
Engineer Volunteers ... ..	1,000	
Other Services (mostly for Regular Army) ... ..	1,600	
	<hr/>	
	4,750	4,750
	<hr/>	
Total ... ..		42,000

	Cavalry.	Artillery.	Infantry.	Engineers, etc.	Staff, Medical and Transpt.
Two Cavalry Brig's...	3,023	400	—	—	—
Three Divisions ...	450	4,800	25,800	675	2,100
Area Troops ... ..	...	2,000	—	1,000	1,750
	<hr/>				
	3,475	7,200	25,800	1,675	3,850
	<hr/>				
	31,275	64,800	232,200	15,075	34,650

	Suggested totals.	Totals by present Establishments. Table E.	Surplus or Deficiency.
Cavalry ...	31,275	27,500	— 3,775
Artillery ...	64,800	38,000	— 26,800
Infantry ...	232,200	261,000	+ 28,800
Engineers ...	15,075	12,000	— 3,075
Staff, Medical Service, etc. }	34,650	—	— 34,650
	<hr/>		
	378,000	338,500	— 39,500



There is thus only a deficiency of 39,500 men in the existing forces, after a proper adjustment of the arms has been made. A portion of the infantry should be reduced and cavalry and artillery corps formed of it, and then all that has to be provided fresh in each area is the staffs and the supply, transport and medical services, which do not at present exist.

In addition to the full garrisons previously arranged for, I have shown in Table F what I consider to be a fair force for each area. It will be noticed that it consists of a division of Militia and two divisions of Volunteers, with some additional necessary troops. There are to be nine such areas, and it will be noticed that the total number of men employed in making an Auxiliary Army of nine army corps is little more than what exists as the establishment of the present Auxiliary Forces. So there is no reason, as far as the men go, that there should not be a large and efficient Army. It is merely a matter of sound administration.

In the country there are about 6,500,000 men between the ages of 20 and 40; that is to say, that to produce an Army of 2,000,000 men we will take nearly one-third of the available material in the country. This is about 225,000 men from each area. The Navy, the Regular Army and their reserves have now nearly 540,000 men, that is, 60,000 men from each area. There are also some 42,000 from each area to fulfil the provisions of Table F, and 16,700 for the garrisons, which leaves us with 106,000 men who would not be with the colours or in either the Regular or Auxiliary Forces. These must be kept trained and held as a reserve for the latter.

It is a simple matter of calculation to determine how much service should be done to produce a certain reserve, and how many recruits are required annually. These figures do not seem to fall fairly into this essay, except as regards the Auxiliary Forces.

It is clearly not the business of this essay to suggest a reorganisation of the Regular Forces, much as it would simplify the whole scheme of defence; but the Auxiliary Forces who have to help them must have their organisation complete. We have therefore to decide upon some means by which the Auxiliary Forces can be kept up to strength. The only one which will have any hope of giving the required result is the application of the ballot to the Militia, and then making the following arrangements:—

Service in the Militia, Yeomanry, and Volunteers should be for a period of twenty years, from the age of 20, the first five years being with the colours, the next seven years with the 1st Reserve, and the last eight years in the 2nd Reserve. The required service to be the same for officers and men. Officers serving after twenty years to be the field officers in the branches of the Service to which they belong, being promoted by careful selection.

Each unit of the forces shown on Table F should have a 1st and 2nd Reserve unit, to which the men are drafted after they have passed the prescribed period in each class, the surplus numbers being available to fill vacancies in any of the other classes. In case of a lack of men in any Volunteer unit, a Militia unit to be raised by ballot in its place.

To train the available manhood of the country to fight, as they must fight, to face the Regular Armies of Europe, we must adopt some such system.

If we take for the Auxiliary Forces in an area 13,000 men each year out of the 37,700 who arrive at the age of 20, we will have, allow-

ing a waste of 4 per cent. per annum from death and other causes, 60,000 for the garrison and the army corps in five years; this out of a population of 186,000 men between the ages of 20 and 25. At the same rate of decrease we find that the 1st Reserve will be 75,770 on a male population of 249,000; the 2nd Reserve will be 55,550 on a population of 264,000. That is, for each area a total of 191,320 trained men from a population of almost 700,000 men of a military age. This gives for the United Kingdom as trained Auxiliary Troops, prepared and organised for war, 1,720,000 men out of a male population of 6,300,000 between the ages of 20 and 40.

If the nation will render this service, and keep the Navy and Army full of recruits, it will be in a condition to meet the coalition above referred to.

## CHAPTER VI.

### *Assistance direct from the People to the Regular and Auxiliary Forces. Recruits, Stores, Arms, etc.*

Having sketched a possible efficient organisation, it is necessary to take the next step in our argument, and see how the people of the country are to assist the Regular Forces, in the first place, directly, and secondly, through the Auxiliary Forces.

The keynote of assistance is sympathy; the feeling that the Navy and Army are part of the nation, and must be encouraged and given fresh life. While they are looked upon as organisms thrown off from the nation, which only return to it in the scrappy form of officers with pensions, and men either with pensions or semi-useless members of society, many of whom fill the workhouses, there can never be true sympathy.

The people—that is, the electorate—should insist that the defensive services of their country are the most honourable; if the most honourable, they will be the most sought after. Why can the finest men be obtained for the parochial defences, *i.e.*, the police, while the national defences are often only given the inferior material? It is simply because the people do not look upon the soldiers and sailors as part of themselves. It is a feeling which has grown from the days of the press-gang, from the time when the prisons were emptied into the ranks of the Army, when we kept Armies of German mercenaries to fight our battles on land. It is a terrible and a shameful memory; but the mercenary idea is not as yet dead amongst us. The ideal of personal and public-spirited self-sacrifice has not yet sufficiently developed. There is always the feeling that a rich nation can buy men to fight, pay them 5s. a day, and that all will be well. While such views prevail, the people can never assist the Regular Force as they should be assisted, by the willing service of the best blood of the nation. This alone is the way in which every male individual member of the population can best help the Regular Forces, by offering to serve when he comes to the age of, say, 20. Then only the finest, most healthy, and best men would be taken for this most honourable duty. Only about one man in every ten would be taken, if the Service were left as it is in the various branches; for a large number of the remainder, places could be found in the Militia, Yeomanry, and Volunteers, if they were organised as suggested in the last chapter.



That is the way in which an ideal population would assist the Regular Forces of an ideal country, with which no other country would ever dare to make war, as it would only be courting certain disaster; but in this world we find greed, self-seeking, and self-interest everywhere, so that in almost every country legislation has made compulsory what in every nation should be voluntary, *i.e.*, the service of the man to the State.

It is only by the abnegation of many of what we call the dearest appendages of freedom, that the people of the country can really help the Regular Forces. But the people can be encouraged to serve by the proper use of this very self-interest which now drives them from the Service. If we cannot instil the higher instincts into men, we can at least with care use their lower instincts to serve our purpose.

If the finest men will not now enter the Services willingly, it is only because the people as a whole have treated them badly. Pay alone is not what is required to attract the desirable recruit in large numbers; it is future prospects that will secure them. At present the future prospects of the short-service man are not very bright. They are, unless he has some friends in civil life who will and can help him, that at no distant date he will assist to fill the great army of the unemployed and sink to the lowest places in that army, he having used the best years of his life in learning an unprofitable trade, and being, from the civilian point of view, unskilled. He may also have learnt the art of loafing and perhaps drinking, and possibly not altogether improved his connections.

But suppose we assure the future of the sailor or soldier, be it by legislation or by public spirit, and at once the whole state of affairs will alter, as it were, by magic. What need would there be for recruiting sergeants and ribbons if it were known as a positive fact no appointment in the police, the post office, on railways, in municipal tramways, gas and water works, and public buildings would ever be given to any man who had not a discharge certificate from the Regular Forces while any ex-sailor or soldier was available for the post? There are further inducements which might be given towards service, such as giving the right to vote only to those who had served in the defensive forces. There is no reason that the country should be governed by a man who will not do a hand's turn in its defence.

I am convinced, if you assure the future of the good man, that he will go into the Navy or Army. A short actual service with the colours will suffice; say three years and then reserve service for as long as is considered desirable. Every man would wish to qualify by service, to gain a first claim on the country. Until a man thus qualified had proved himself to be unworthy of trust, he should always find service to the country was repaid by work to hand when required.

That any man who had been a soldier was thereby for ever qualified for any post is of course not to be expected; but there are positions in which any man, even the most uneducated, can be employed. But there would only be a necessity to take for the Army the very best of the men who presented themselves. It is useless having a great choice without exercising judicious selection.

The next way in which the assistance of the people is required is land for training the existing troops. This in the ideal country would be done at once, but in a country where continual prejudice



has bred selfishness, legislation will be necessary to ensure the use of land for military exercises. An area sufficiently large for annual manœuvres is a good thing, but is not sufficient. What is wanted is the use of all ground without restrictions for any time in the year, so long as no damage is done, and if damage is done, that compensation is fairly made. If it were possible to use all ground, it would not be necessary to use any ground much. With properly constituted units fit for war there would be ample labour available to repair damage. If they could not do this, they would not be capable of carrying out the necessary constructive work in war. Of course, care should be taken in the selection of ground for annual manœuvres that the same areas are not used in successive years. The large manœuvres should take place late in the year, as the care of men is one of the chief duties of the staff. If at manœuvres good arrangements are not made for the accommodation and comfort of the troops, what is to be expected of the staff of the Army in actual war, when everything is so much more difficult? Billets should be the normal way of accommodating men at manœuvres, tents are an impossible encumbrance to modern Armies, and any extended use of the bivouac is detrimental to the efficiency of the Army.

The efficiency of the forces also depends upon the stores and arms being always ready to hand and of the best quality. It is of the utmost importance that the efficiency of the dockyards and arsenals should not be impaired by the fact of mobilisation. It follows that the men employed in these places, as mentioned above, should not be reservists, who may be recalled to the colours on the outbreak of war. They should be manned by men who have passed the military age, say 40, but they should be as far as possible men who have served in the Regular Forces. Similar rules should apply to private firms which supply war stores, as the employment of men who have not served their complete time might prejudice the output of these places at the most important moment. It is by sensible regulations in this respect that the country can assure the efficiency of its Army in war.

Another very important thing is the maintenance of proper secrecy during war. No commander can be said to have a chance when his every move is reported as soon as it takes place. All news which is public will get into the hands of the enemy with the modern means of communication. It is only by the noble co-operation of the Press that a general's hands will remain free. Even the bare reports of casualties at a certain place may give the enemy valuable information as to which units were at a certain place on a certain day.

There are thus many ways in which the people can help the Regular Forces to be efficient for war, and so overcome the difficulties which at present stand in the way of enlistment, organisation, and training. These difficulties will really all disappear if a warm and generous feeling can be engendered into the people towards the Army, which should be a part of themselves.

The assistance which the people should render to the Auxiliary Forces is much the same as that to the Regular Forces. The desire to serve the State in order to make the country invulnerable, great, and free, should produce all the recruits necessary for each branch of these forces, be they Militia, Yeomanry, or Volunteers. The difficulty should again be to select the best recruits, not to get a sufficient number. The stream of men who pass through the necessary

training should be continual. The period of service provided for under the chapter on Organisation should be sufficient, and should furnish a sufficient reserve.

If there should be a lack of recruits, the ballot would have to be applied for the Militia. The existence of a ballot for the Militia would act as a spur to make men join the Volunteers, and should Volunteer units not fill, Militia units must be raised by ballot in their stead. It is by insisting upon some such provisions, and by seeing that the Auxiliary Forces are sufficiently trained, that the people can assure that they are efficient to help the Regulars in the case of need. Laws must exist to enforce what does not come voluntarily; but it is hoped that there will be no necessity to enforce these laws.

It must not be overlooked that to volunteer for 5 years' colour service in the Volunteers at the age of 20, and for 15 years' reserve service, is a much more serious engagement than what the present Volunteers undertake; but some such arrangements giving efficient units is necessary, and we cannot be said to have got thorough efficiency yet, without legislation.

Volunteer officers must be given a social status; this would come with the improvement of the force. They should receive some fixed annual pay, if passed efficient. Similar arrangements would be necessary for the Yeomanry and Militia. The question of officers presents difficulties, but it must be found to be an advantage to a man to be an officer, and then the dearth of good officers will cease to exist. Officers should be selected originally, and only promoted if thoroughly efficient.

## CHAPTER VII.

### *The Individual Assistance of the People and that of Corporate Bodies.*

In war, if each individual works for the benefit of the State, the ends in view will be attained easily. All the troubles which come from discontented communities arise from the acts of individuals. An enemy can do much less in a country where the dense population of the country is passively his foe. He can obtain no information; he can send no orders without large escorts; he cannot even trust the information which he does get; while the home army can go anywhere and knows everything which is to be known. This was the state of things in the South of France in the winter of 1870-71, and had the French Armies been what it is hoped an Auxiliary British army might be with efficient organisation, it seems unlikely that Von Werder or the Crown Prince would have had many successes to boast of. The bearing of the people towards an invader is most important, it must be absolutely negative, and not such as that of the French on the Moselle, where information was fairly easy to obtain. The amount of service which individuals can render to messengers, to keeping lines of communication open and to supplying food, etc., is enormous.

The reverse is also important. To what extent civilians can execute hostile acts is a question, and should England be invaded by two armies of 500,000 each, it would probably be politic for individuals to enlist in local corps and to become regular combatants, rather than to act in a hostile manner personally. A force will always want guides, men knowing the country should volunteer for such service,



while no information or guides should be forthcoming for the enemy.

Corporate bodies can render the greatest assistance to armies. Water-works can provide large forces in given areas with water. Corporations can arrange to supply food at moderate rates. They can arrange for all questions of housing the troops, and place public buildings at the disposal of the military authorities. They can provide supplies of food, fuel, etc., to the fighting forces, while, should it be necessary to relinquish a place, they must arrange for the destruction or removal of all supplies which can be spared.

They should arrange gangs of diggers to assist the military to make any necessary earthworks. They can arrange for transport over and above what is supplied by the Army Service Corps. The helpful work of local authorities may make a great deal of difference to the success of any plan. It must be remembered that the enemy will take what is often denied to our own men. It is, therefore, of the greatest importance that corporations should do all in their power, which is a great deal, to assist their own armies.

War requires the services of everybody. There must be no deserters, no skulkers. Each individual citizen of the country must, by his bearing towards them, make the life of such people a burden.

The Corporations must see to the registers of the areas over which they rule. The registration of the population and the provision of the necessary recruits, by ballot if necessary, is a duty which must be carefully carried out.

The individual employer of labour can assist the Auxiliary Forces by letting his men get well trained. There is no reason why his business should suffer. These things are always matters of arrangement. If one-half the time which is spent by crowds watching football matches were spent on healthy military exercises, there would be a trained division in every town of 100,000 inhabitants.

The whole thing amounts to this, that if the individual will but study the nation's needs, he will find that the first thing is to have men fit to be sailors and soldiers, and if he then carries out the precept learnt, he will make himself fit, his children fit, and insist that the local authorities study the development of the children who have not parents fit to look after them. This fitness, which is both mental and bodily development, is the mainspring of success. The man who is fit to fight is fit to have a free country, and is fit to rule wherever he goes. He will find few to fight him, and he will overcome those who are not as fit as himself.

We, as individuals, and as members of corporate bodies, must remember that our possible enemies, Germany, France, and Russia, at least the two former, study physical fitness and development, while the latter has an enormous well-developed rural population. It is obviously unjust to ourselves for us to pit ourselves against these foes unless we take the preliminary precautions of physical training and military organisation. It is the duty of every man to demand this training, and the more it is demanded, the more likelihood there is of our country having the means at hand to assist the Regular Forces when they are asked to fight the three armies which I have above-mentioned, which no Regular Forces, which any country can keep at practically a war footing as we do, can hope to do. To meet the coalition of the naval Powers of the Continent, Britain must be a nation in arms. It can be a nation in arms with little or no trouble if its people will only apply patriotism practically to themselves, and



develop the Auxiliary Forces on the lines which I have indicated in the chapter on Organisation.

## CHAPTER VIII.

### *A Scheme to Further Increase the Power of the Auxiliary Forces.*

In the fifth chapter an attempt was made to show that by means of a certain amount of territorial organisation, the present Auxiliary Forces, when distributed rationally to the different arms of the service, could, on mobilisation, be formed into a mobile force of nine Army Corps, or, if we prefer it, 27 Divisions. That, at the same time, very considerable garrisons were also available for the defence of all the fortresses and also for the protection of our principal commercial ports.

The scheme there suggested only took men between the ages of 20 and 25 in the forces above-mentioned, after that age they were passed into the reserve and would only be recalled to the colours therefrom to fill up vacancies in the units mentioned. These steps might produce a sufficient force for a purely defensive war, in which the only thought was to keep the enemy out of British possessions; hoping that the Navy could defeat our foes on the sea. But if we wish in any way to take the aggressive and strike at our enemies beyond the seas, making use of the Navy as a guard to our line of communications, we must be prepared to increase our forces still further. Whether offensive action against a coalition would be politic or not is another question, but it is an axiom of war that the passive defensive cannot finally succeed.

The simplest way in which this increase can be carried out, is to arrange that in each area every unit calls up reservists to double its strength. The original units of the Auxiliary Forces can and should go to the front. It would be advisable, if possible, to concentrate them first in large bodies, so that they might receive some additional training if this had not been part of the peace programme. The newly-formed corps would, in the meantime, take their places in the home defence army. Should it be necessary to produce still further forces, the same process can be carried out a second time. This second levy would exhaust the first reserve, and a portion of the second reserve would have to be called up. It might be advisable to complete whole units from men belonging to the second reserve, and exchange these units with units detailed for the protection of the fortresses in the first instance, so that the younger and more active men should be taken for the mobile army.

When the drain of war had exhausted all the reserves, it would at once be necessary to take steps to train for war the eldest contingent which had not reached the military age, so that they might fill up gaps in the fighting forces. These youths should not be taken before the reserves are exhausted, as any drain on the contingents which have not reached the military age is spending national capital, and must weaken unduly the army of the future. As a last resource Volunteer Corps of men of over forty can be raised for the defence of the fortresses, and the units of the fortress defences assembled and organised.

During a war there should never be any question as to the terms of a man's service being fixed by any dates. That war service can be

completed before the end of a war is absurd. The three months' men at Bull's Run, and the one year men in the Boer War are shocking instances of the difficulty of keeping troops up to a pitch of war keenness when they are not bound to see the war through. It all comes to this, that it is no use playing at soldiers as we have done. A war conducted with inadequate means from the beginning, like the Boer War, lasts four times as long as is necessary, it also costs much more in both men and money to both sides; and I very much doubt if the defeated side has less bitterness afterwards, than would be the case if the sternest measures had been employed from the very beginning.

Success in war is always best attained by the most vigorous blows being given in the shortest possible time. If we wish to arrange to get the most out of our population, we must be prepared to arm them thoroughly with the best of everything. We have got enough rifles for the army sketched in the chapter on Organisation, but we want an enormous number of additional guns to make that army efficient. If, however, it be contemplated to increase the units to double or three times the present number, we shall have to provide arms for these forces, unless we are content to arm them with antiquated weapons, which means to court defeat.

Field guns for such a second army as suggested above would cost over £4,000,000, and the rifles about £1,000,000; so, if the policy which it is intended to follow, is to increase the number of the Army Corps or Divisions in war, we must face the expense of the extra armaments in peace time.

Horses are a necessity for any army, and the country must see that an ample supply is forthcoming. We have at present no statistics to show whether there are a sufficient supply of suitable horses in the country for nine Army Corps. If not, some arrangements must be made to supply the want. The horses are almost as much a necessity as men.

The registration and classification of every horse in each area should be most carefully carried out. Registration will not make horses, but it will show where they are and how they can be obtained. It will also show where there is the greatest deficiency and where there is a surplus, if any. No mobilisation can be rapid unless the arrangements for the supply of horses to the Regular Army and to the Auxiliary Forces is certain and has been fully arranged for during peace. Laws are necessary to enable the district authorities to complete their units for war in horses.

If the horse supply fails, much can be done by motor traction for all the necessities of the home defence army, other than actual bringing guns into action and supplying mounted troops. For all purposes, in connection with the supply of the territorial army, and whatever system of expansion is adopted, we must retain the area as the unit from which men, etc., are drawn. No good mobilisation and defence schemes can really be worked out on any other basis.

Of course, there are many other systems of dividing up the country possible; it would be easy to arrange for a much larger home defence army, but that would in no way be the present Auxiliary Forces. And I think that it is a better method of increasing the army to draw a second levy from each area, than to have smaller areas originally and nominally a larger peace army.

## CHAPTER IX.

*A Scheme for the Co-ordination of the whole of the Forces of the Kingdom for War, and Conclusion.*

When we make preparations to meet a vast coalition at war with us, we have to use the forces which we have to the best advantage.

There may be good reasons for Army Councils and Boards of the Admiralty during peace. They are doubtless money-saving machines, but they must be servants, not masters, in war.

The war which is conducted by a Council has usually failed. The best way to victory is to give the general in the field in each theatre a free hand, but the authorities should decide what force is to go to each theatre. The only logical conclusion is, that for war the Sovereign shall name two Directors of War, one naval and one military. These men in war, acting together, direct from the War Office and the Admiralty as the Sovereign's directors. The office of Civil Head to Navy and Army must cease to exercise any authority the moment war is declared, unless we wish to see indecision and defeat awaiting our forces.

It is little more than ludicrous to ask a printer to direct an army or a bookseller to conduct the fleet. They have their uses as party butts, but defend us from attempting to meet a great coalition with such leaders.

A King may or may not be a great leader; he will at least get the best service out of his Directors of War that they are capable of rendering, and if they are men who think largely and are fit to take responsibility, there is a chance of success. They can direct their departments and must work in unison. They will not have to answer questions in the House of Commons when they should be attending to business. The naval and military means of offence and defence must have been arranged for in peace; it is not for them to manipulate what does not exist, but to make the arrangements for the disposal of what has been constructed into an army in peace time.

The subordination of those who know to those who do not know is unpleasant enough in peace time; in war time it is practically certain to lead to failure. To whomsoever the power is given to direct the war must be absolute. They can only apportion troops to spheres of usefulness, be it the defence of India or England, or the attack on some hostile possession.

The defence of each country must be invested in a local Commander-in-Chief, who, in the case of India, would command every soldier in India, and would make representations to the Director of Operations of War.

The Commander-in-Chief at home would command the passive defences and the area commanders. He would be responsible for the fortresses being in a proper state of defence, and would order the extent of mobilisation necessary, and would command the Home Defence Army.

In each area there would be a general commanding, whose duty would be to produce the men for the fortresses and for the local divisions raised in the area. He would make all arrangements for their mobilisation and carry it out when ordered by the Directors



of War. The fleet would similarly be under Admirals of the Fleet, who would be subordinate to the Directors of War.

When a country is at war with a combination of hostile forces, success hangs on the unity of the driving power of its forces. This unity can only be obtained by having war arranged for by fighting men, who understand that things must be done in order to destroy or resist the enemy, and for the good of the country, and not because it suits party politics. The soldier can never understand the whys and wherefores of the latter, but they are of such minor importance when the struggle is for national existence, that the usual means which they have been applying for centuries to raise forces in this country will not be found to be sufficient.

It will not be for the War Directors to say how any Commander-in-Chief is to carry out his aim, but only to give him his tools and his objective.

The commands of large Navies and Armies must be given to the best men available.

In a war such as has been suggested, half a million men must be placed on the Frontier of India; these are Regulars. If we are defeated at sea we must organise the nine Army Corps at home in the Field Armies, and mobilise our fortresses and nine reserve army corps and build a new fleet, and resist any attacks from without.

If we are successful at sea, the army corps must be moved to the Continent to do the maximum damage to the enemy. It may be found that we can only take islands and annex Colonies, destroy coaling stations, and ruin trade.. German and French trade would be worth very little if we had complete command of the North Sea and the Channel.

France and Germany might be induced to send armies to assist Russia in Central Asia, and to try and destroy us on land; but the size of the army which can be usefully employed in Central Asia against India is limited by other considerations than the supply of men. To my mind, the Continental coalition would gain more by accepting peace than by the continuance of the war after a naval disaster. Should they, however, gain temporary command of the sea, it would be necessary for them to strike a blow in England to gain their ultimate object. The blow in England would have to be met by the Auxiliary Forces, unaided, most likely, by a single Regular soldier. In case of British success at sea, the capture of foreign Colonies and islands would have to be undertaken by Auxiliary Armies.

The war which is suggested by the title of this essay is too awful to think of; but if England be true to herself, she need not fear. Her Regular Army may stand on the Indian Frontier and defy attack by attacking every Army which approaches; her Navy may sail the sea, and, if crippled, may come into safe anchorage, knowing that the Auxiliary Forces of the country have been so organised that the enemy dare not attack, and that the population of the country are fired with a spirit which will render any service to ward off defeat. If the Navy is triumphant at sea, the Auxiliaries can be transported to whatever spot it may be necessary for them to land on and to rob the jewels from the crowns of those who would rob us.

It at present seems impossible for the British civilian mind to grasp the splendour and passive repose of a country which is armed

and strong, which can fight and will fight as Germany can and will fight to-day.

To the military mind it appears to be little short of criminal to allow a country to remain in a condition in which its forces are not organised for war and in which no forethought is given to the necessities of war, and while millions are wasted annually. A country in which patriotism has never got to the first practical step of having a register of its male population and of its horses of military value must be weak. It also seems wonderful, in a country which is in very many ways truly patriotic, and where the love of freedom should be a watchword which will stir all hearts, that so little is done.

Organise, register and rebuild a military greatness on the bones of our Auxiliary Forces, and we will find that these forces can help us at every turn, and if they are not then successful, it is because the Lord of all nations so wills it, and not because the sloth of the nation has been so great that its people will not read the writing on the wall and prepare for what may and will happen.

We know what some foreigners think of us, namely, that if we were in absolute command of the sea, we could not place 100,000 men on the shores of the Continent, even as an auxiliary to a Continental Power, and yet our Army costs over £30,000,000 a year. These critics are not far wrong.

Truly (to quote) "a wonderful and horrible thing has been committed in the land." The leaders of the people preach to them vain soothing, and by blinding their eyes to the true military state of the country remain in power. And we must presume that the sloth and faint-heartedness of the majority of the people "loves to have it so." But, to again quote from the scriptural parallel: "What will ye do in the end thereof?"

My answer is: Awake, ye Britons, demand to render your lawful service to your land and keep her free thereby; keep her the prosperous defender of the right and the leader in the forefront of civilisation. Peaceful in all things, but armed and prepared so that none dare oppose our just cause, knowing the sword of the British people will never be drawn to support an unjust one.

If we do these things, then may we be sure that the words which Shakespeare makes the spirit of Cœur-de-Lion utter will be true:—

"Come the three corners of the world in arms,  
And we shall shock them. Nought shall make us rue  
If England to itself do rest but true."

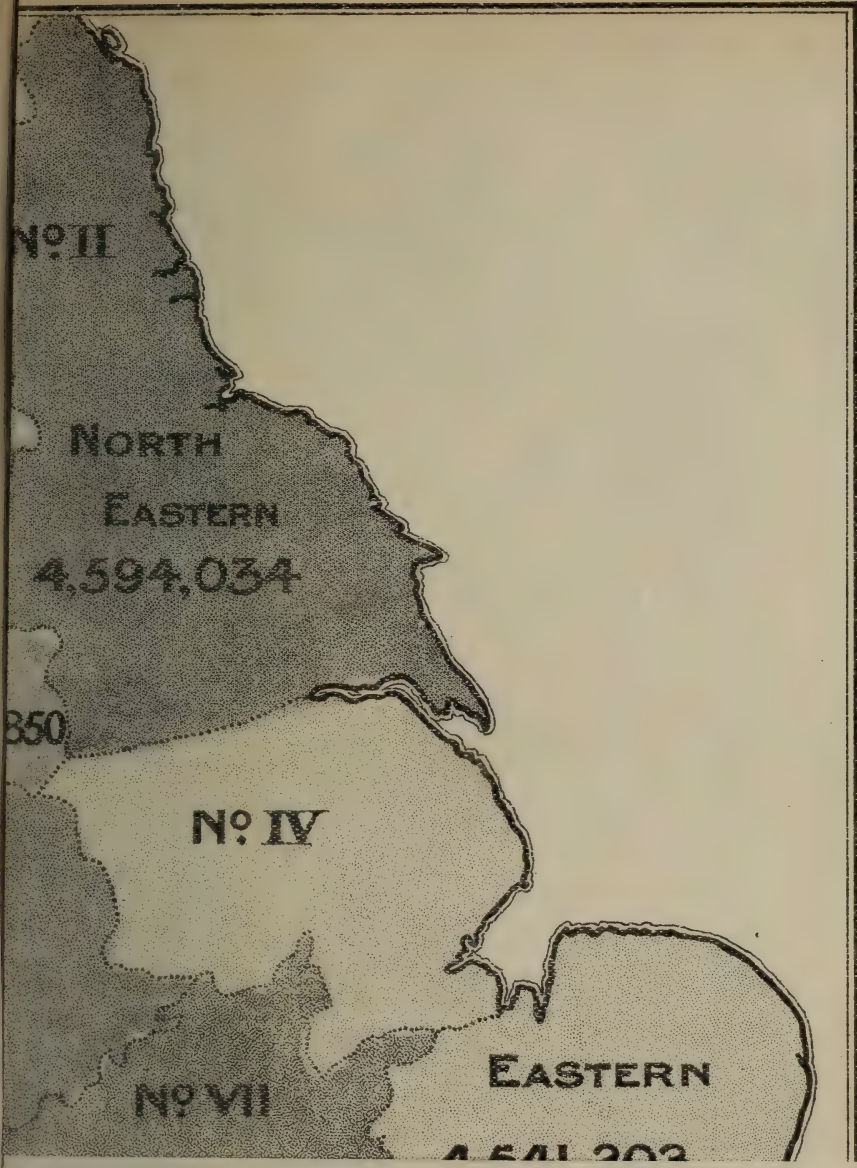
But we must remember the sentence which preceded these lines:—

"This England never did nor never shall  
Lie at the proud feet of a conqueror,  
But when it first did help to wound itself."

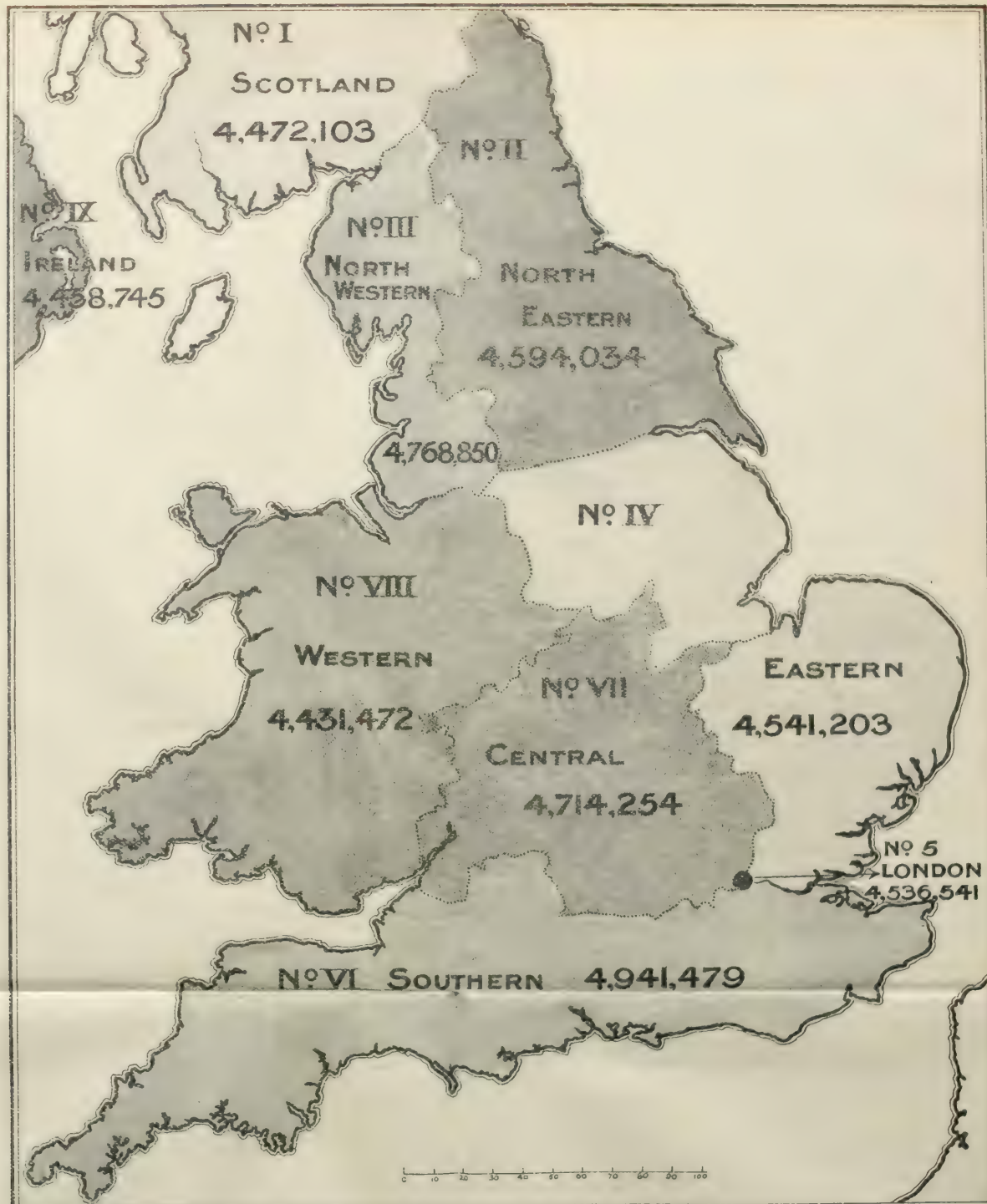
And be quite sure that by our blindness to our necessities we are not wounding the nation in such a way that recovery is impossible.

Britons, stand together and demand your birthright of service.

"UNION IS STRENGTH."







Area No.	Name of Area.	Population.
1	SCOTLAND ... ..	4,472,103
2	North Eastern ... ..	4,594,034
3	North Western ... ..	4,768,850
4	Eastern ... ..	4,541,203
5	LONDON ... ..	4,536,541
6	Southern ... ..	4,941,479
7	Central ... ..	4,714,254
8	Western ... ..	4,431,472
9	IRELAND ... ..	4,458,745

## DETAIL OF COUNTIES IN EACH AREA.

1st Area—SCOTLAND ... ..	...	...	...	...	...	4,472,103
2nd Area—N.E.	Northumberland ...	...	603,119			
	Durham ...	...	1,194,590			
	York ...	800,000	2,796,325			4,594,034
3rd Area—N.W.	Cumberland ...	...	266,933			
	Westmoreland ...	...	64,409			
	Lancaster ...	...	4,437,518			4,768,850
4th Area—E.	York ...	...	800,000			
	Derby ...	...	491,032			
	Notts ...	...	596,705			
	Lincoln ...	...	492,994			
	Rutland ...	...	20,743			
	Huntingdon ...	...	46,750			
	Cambridge ...	...	200,680			
	Norfolk ...	...	467,754			
	Suffolk ...	...	361,900			
	Essex ...	...	1,062,645			4,541,203
5th Area—LONDON ... ..	...	...	...	...	...	4,536,541
6th Area—S.	Cornwall ...	...	318,591			
	Devon ...	...	664,697			
	Somerset ...	...	466,193			
	Dorset ...	...	199,968			
	Wiltshire ...	...	263,944			
	Hampshire ...	...	768,608			
	Surrey ...	...	718,549			
	Sussex ...	...	605,785			
	Kent ...	...	935,144			4,941,479

7th Area—C.	Gloucester	...	...	648,627	
	Worcester	...	...	500,819	
	Warwick	...	...	906,601	
	Oxford...	...	...	186,698	
	Berkshire	...	...	288,531	
	Middlesex	...	...	810,306	
	Northamptonshire	...	...	348,947	
	Leicester	...	...	440,932	
	Hertfordshire...	...	...	239,760	
	Bedfordshire	...	...	174,972	
	Buckinghamshire	...	...	173,061	4,714,479
8th Area—W.	Wales ...	...	...	1,698,148	
	Chester	...	...	792,913	
	Stafford	...	...	1,251,910	
	Shropshire	...	...	259,088	
	Herefordshire...	...	...	112,549	
	Monmouth	...	...	316,864	4,431,472
9th Area—Ireland	...	...	...	...	4,458,745



## NAVAL NOTES.

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HOME.—The following are the principal appointments which have been made: Captains—The Hon. H. L. A. Hood, D.S.O., to "Berwick"; C. A. W. Hamilton to "Essex"; C. H. Robertson, C.M.G., M.V.O., to "Bedford"; H. Lyon to "Cornwall"; T. P. Walker, as Assistant to Admiral Commanding Coastguard Reserves; S. H. Carden to "Repulse"; E. R. Pears to "Blenheim"; C. E. Anson, M.V.O., to "Argyll"; R. H. Stewart, M.V.O., to "Illustrious"; S. Nicholson to "Dido"; H. G. King Hall, D.S.O., to be an Assistant-Director of Naval Intelligence; H. H. Tothill to "Barfleur"; H. B. Pelly, M.V.O., to "Venerable"; C. E. Kingsmill to "Dominion"; R. G. Frazer to "Majestic"; C. H. Dare M.V.O., to "Ramillies"; E. Lees to "Mercury"; H. L. Tottenham to "Mars"; R. E. Wemyss, M.V.O., to "Suffolk"; J. R. Bridson to "Challenger"; G. F. Dampier to "Hermione"; J. A. Tuke to "Monmouth"; F. A. Warden to "Illustrious"; C. H. Umfreville to "Niobe"; W. B. Fawckner to "Cressy."

Rear-Admiral C. J. Barlow, D.S.O., took over the charge of Devonport Dockyard on the 31st ult., in succession to Vice-Admiral W. H. Henderson.

The first-class battle-ship "Venerable" arrived at Chatham on the 13th ult. from the Mediterranean; the ship's company were granted leave, and Rear-Admiral F. C. Bridgeman, having hoisted his flag on board her, as Rear-Admiral in the Mediterranean Fleet, in succession to the late Vice-Admiral Sir H. Grenfell, she left on the 30th ult. to return to her station.

The first-class armoured cruiser "Lancaster" arrived at the Nore on the 8th ult. from the Mediterranean, re-commissioned at Chatham on the 20th ult., and left on the 24th ult. to rejoin the Third Cruiser Squadron in the Mediterranean. The new first-class armoured cruiser "Black Prince" commissioned at Chatham on the 27th ult. for service with the Second Cruiser Squadron, in which she relieves the first-class armoured cruiser "Bedford." The first-class armoured cruiser "Berwick" arrived at Sheerness on the 5th ult. from Lagos, re-commissioned at Chatham on the 12th ult. for a further term of service with the Second Cruiser Squadron, and left on the 23rd ult. to rejoin the Squadron. The first-class armoured cruiser "Bedford" arrived at Sheerness on the 14th ult. from the Second Cruiser Squadron and paid off at Chatham on the 26th ult. The first-class armoured cruiser "Donegal," which left England on the

15th February for China, arrived at Plymouth on the 6th inst. to undergo repairs, after having touched the ground on the evening of the 1st March off Ras Gharib, while steaming down the Gulf of Suez; she paid off on the 10th inst., her crew being transferred to the first-class armoured cruiser "Monmouth," which left Plymouth on the 12th inst. for China, to relieve the "Andromeda," for which purpose the "Donegal" had been commissioned. The "Donegal" is to be sent to Chatham for repairs.

The third-class cruiser "Wallaroo" arrived at Plymouth on the 19th ult. from Australia, and will pay off at Devonport, when she will be sold out of the Service.

*Colonial Naval and Military Expenditure.*—The following return of the expenditure on naval and military purposes of the self-governing Colonies has been issued by the Colonial Office :—

Year ended.	Colony.	Expenditure on Colonial Forces and Works and Armaments.		Contributions to Imperial Garrison and Navy.	
		Military.	Naval.	Military.	Naval.
		£	£	£	£
June 30, 1904 ..	Canada ... ..	814,329	...	22,600	...
June 30, 1904 ...	Australia ... ..	615,758	43,673	...	196,226
March 31, 1905..	New Zealand ...	234,469	742	...	40,742
June 30, 1905 ..	Cape of Good Hope	229,786 <sup>1</sup>	...	...	50,000
June 30, 1904 ...	Natal ... ..	341,016 <sup>2</sup>	...	4,000	25,628

<sup>1</sup>Exclusive of expenditure for Cape Mounted Police (£343 14s. 6d.)

<sup>2</sup>Inclusive of Reserve and District Police (£216,762).

*The Battle Practice of the Fleet.*—The results of all the gun practices which were carried out in 1905, including the battle practice, have now been prepared. The following is an abstract of the results of the firings :—

Order of Merit.	Battle Practice.				Heavy Gun Layers' Test.			
	Squadron.	No. of Ships.	No. of Guns.	Average Points.	Fleet or Squadron.	No. of Ships.	No. of Men Firing	Points per Man.
1	Channel ... ..	12	182	157·0	Atlantic ... ..	15	211	76·01
2	3rd Cruiser ... ..	4	56	147·9	3rd Cruiser ... ..	4	52	75·43
3	Mediterranean.	12	177	133·1	Channel ... ..	14	188	74·64
4	Atlantic ... ..	11	176	91·8	2nd Cruiser ... ..	6	78	69·05
5	China... ..	8	112	65·3	Mediterranean	12	147	68·54
6	2nd Cruiser ... ..	6	88	54·0	East Indies ... ..	5	43	66·66
7	1st Cruiser ... ..	6	76	47·5	China ... ..	14	162	65·05
8	Australia ... ..	1	14	46·8	Cape of Good Hope ... ..	4	38	64·14
9	East Indies ... ..	4	37	37·6	1st Cruiser ... ..	6	72	61·63
10	Cape of Good Hope ... ..	4	39	31·6	Australia ... ..	5	47	55·27
11					N.A. and West Indies... ..	4	36	53·04
12					Tenders ... ..	11	22	26·12
		68	957	120·0		100	1,096	68·26

## LIGHT QUICK-FIRING GUN LAYERS' TEST.

Order of Merit.	12-Pounders.				6 and 3 Pounders.			
	Squadron.	No. of Ships.	No. of Men Firing	Points per Man.	Squadron.	No. of Ships.	No. of Men Firing	Points per Man.
1	East Indies ...	1	8	48.92	3rd Cruiser ...	5	37	23.98
2	Channel ...	7	78	33.64	Atlantic ...	10	103	23.85
3	Australia ...	2	20	31.65	Australia ...	5	29	21.18
4	Mediterranean.	11	152	24.53	Channel ...	9	60	20.31
5	3rd Cruiser ...	4	38	24.52	East Indies ...	6	43	20.18
6	1st Cruiser ...	3	28	23.84	Mediterranean.	11	66	19.94
7	Atlantic ...	9	114	21.10	1st Cruiser ...	6	69	19.03
8	2nd Cruiser ...	6	52	20.14	N.A. and West Indies ...	1	8	18.28
9	China ...	3	36	15.99	2nd Cruiser ...	6	18	16.79
10					Cape of Good Hope ..	4	44	16.18
11					China ..	9	51	13.00
12					Tenders .	13	52	12.75
		46	526	24.73		85	580	19.25

—Times.

*First Lord's Explanatory Statement of Naval Estimates, 1906-07 :—*

*Distribution of the Fleet: Mediterranean.*—The Battle-ship Squadron, consisting of eight ships of the "Formidable" class, has remained unaltered. The second-class cruisers attached to it have been reduced, by the withdrawal of the "Juno," to three ships of the "Talbot" class.

In the Third Cruiser Squadron the armoured cruiser "Carnarvon," of the "Devonshire" class, has replaced the "Aboukir." The repair-vessel "Vulcan" has been appropriated for special service with the Mediterranean destroyers affiliated to that squadron.

*North America and West Indies.*—In the Fourth Cruiser Squadron the "Royal Arthur" has replaced the "Ariadne" as flag-ship, and the "Edgar" has relieved the "Gibraltar." The "Eclipse" was temporarily added, but has now been withdrawn, and has been attached to the Royal Naval College, Osborne, in place of the "Hermes." The "Diamond," which was attached to the Fourth Cruiser Squadron for permanent service in the West Indies, has been replaced by the "Indefatigable."

The sloop "Fantome" has been brought home from Halifax, and will shortly be fitted for surveying service. Three cruisers of the "Apollo" class have been employed in connection with the Newfoundland Fisheries, and are now proceeding on a cruise along the East Coast of South America and the West Coast of Africa under the command of Commodore Sir Alfred Paget.

*China.*—Considerable changes have been made in the China Squadron. All the battle-ships have been withdrawn, while of the cruisers, the "Amphitrite" has been replaced by the "Diadem," and the "Sutlej," "Hogue," and "Andromeda" will shortly be relieved by the armoured cruisers "King Alfred," "Kent," and "Donegal." The second-class cruiser "Bonaventure" was transferred from the Pacific station to relieve the "Thetis," but is now about to be withdrawn from the China station, and the "Flora" has replaced the "Iphigenia" and "Sirius."

The two sloops, "Cadmus" and "Clio," have been transferred from the Australian to the China station. The gun-boats "Bramble" and



"Britomart" will shortly be put in commission on the station for service on the rivers. The shallow-draft steamer "Nightingale" is being sent out from England, making 10 vessels of this type on the China station for river work.

*Australia.*—The "Powerful" has relieved the "Euryalus" as flag-ship.

This squadron has been strengthened by the addition of the second-class cruiser "Cambrian." The third-class cruiser "Wallaroo" has been withdrawn, and the second-class cruiser "Encounter" has joined the station.

The "Psyche," "Pyramus," and "Pioneer" have replaced as drill-ships the "Katoomba," "Phoebe," and "Mildura." The five third-class cruisers now on the station are all of the same type. The sloop "Torch" has been paid off and laid up at Sydney, and there are now no vessels of this class on the station.

*East Indies.*—The "Hermes" has replaced the "Hyacinth" as flag-ship.

The "Renown" and the escorting-ship, the "Terrible," which were placed at the disposal of their Royal Highnesses the Prince and Princess of Wales, have been visiting various ports on the East Indies station.

*Cape of Good Hope.*—No alteration has taken place with the exception of the relief of the "Barrosa" by the "Pelorus."

*Atlantic Fleet.*—This fleet now includes eight battle-ships, viz., five of the new "King Edward VII." class and three of the "Majestic" class. The vessels replaced have been the "Cæsar," "Hannibal," "Jupiter," "Mars," and "Illustrious."

The "Arrogant" has replaced the "Doris" as one of the Cruisers attached to the Battle Squadron.

In the Second Cruiser Squadron, which is affiliated to the Atlantic Fleet, it is intended to replace two of the "Monmouth" class cruisers shortly by two cruisers of the new "Duke of Edinburgh" class.

*Channel Fleet, including First Cruiser Squadron.*—One of the chief features of the past year in the distribution of H.M. ships has been the strengthening of the Channel Fleet.

The number of battle-ships has been increased to 17, and the composition of this fleet will shortly be as follows: Six battle-ships of the "Duncan" class, five of the "Canopus" class, four of the "Majestic" class, and the "Triumph" and "Swiftsure" (ex-Chilian ships).

The cruisers attached to the Battle Squadron have been augmented by the "Juno," transferred from the Mediterranean.

The "Sapphire" and the Home Torpedo-boat Destroyer Flotillas are now attached to the Channel Fleet. The "Sapphire" has become the flag-ship of the Rear-Admiral, called the Admiral (D), who has been appointed in command of all torpedo-boat destroyers, torpedo gun-boats (except those employed on fishery duties), torpedo-boats and submarines in full commission and in commission in reserve. Three scouts will shortly be employed on service with the destroyer flotillas.

In the First Cruiser Squadron, affiliated to the Channel Fleet, the "Roxburgh," "Antrim," "Devonshire," and "Argyll" have replaced the "Kent," "Bedford," "Donegal," and "Monmouth," and the "Hampshire" has been added. The "Good Hope" remains the flag-ship.

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FRANCE.—The following are the principal appointments which have been made: Rear-Admirals—L. Barnaud to be a Member of the Superior

Council of the Navy; J. A. Philibert to Command of a Division in the Squadron of the North. Capitaine de Vaisseau — P. M. Vincent to "Bouvines." Capitaines de Frégate—M. P. F. De La Roche-Kérandraon to "Takou" and Command of 1st Torpedo-boat Flotilla in Chinese waters; M. J. A. Bö to "Phlégéton"; R. P. A. Chevalier to "D'Estrées"; R. M. A. Frappier to Command of Fixed Defences at Brest; L. G. Viaux to be Chief of the Staff to Rear-Admiral Philibert.

Rear-Admiral Philibert hoisted his flag on the 28th ult. on board the coast-defence battle-ship "Bouvines" at Brest in Command of the 2nd Division of the Squadron of the North, in succession to Rear-Admiral F. A. Leygue.

The second-class cruiser "Chasseloup-Laubat" commissioned at Lorient on the 26th ult. as senior officer's ship of the Newfoundland and Icelandic Fishery Protection Division, and the third-class cruiser "D'Estrées" commissioned at Rochefort on the 1st inst. for service with the Atlantic Division, where she relieves the third-class cruiser "Troude," at the conclusion of the fishery season.

M. Thomson, Minister of Marine, has placed on the retired list MM. Doyère and Aubusson de Cavarlay, Engineers-in-Chief in the Navy, on account of their having taken part in the religious demonstration against the civil authorities at the making of the inventory at the Church of Vœu Cherbourg. M. Doyère is an officer of 28 and M. Cavarlay of 23 years' service.

A decree has been published reorganising the torpedo flotillas, which will in future comprise three classes as follows:—

*Category A.*—Sea-going torpedo-boats of the 1st class and most recent types, constituting the first line.

*Category B.*—Sea-going torpedo-boats of the 1st and 2nd classes, constituting the second line, and including the division of torpedo-boats in commission for exercise.

*Category C.*—Torpedo-boats of all classes undergoing repairs and alterations which may make them unavailable for a long period, and torpedo-boats of the older types not suitable for war service outside the immediate neighbourhood of their harbours, and detailed in peace time for special services.

This new method of classing will allow of the number of boats ready for instant mobilisation being always known.

The decree also gives regulations on all questions relative to the duties of commanders and officers of the flotillas, and on the mobilisation both of the *personnel* and the *matériel*. The crews have been so arranged that in the military ports the divisions of the first line, and outside these ports the divisions of the first and second lines, will, on the order to mobilise, be manned by fully-trained men. The decree has the full approval of Admiral Fournier, Inspector-General of *mobile defenses*.

As the Mediterranean Squadron was leaving Toulon on 6th February the flotilla of submarines was ordered to make an attack on the battle-ships, and the "Bonite," one of the former, came into collision with the battle-ship "Suffren." The "Bonite's" fore end was crushed in, and the fore compartment filled. She was able, however, to return to Toulon under her own motive power, but proceeding stern first.—*Le Yacht* and *Le Temps*.

*Précis of M. Charles Bos's Report on the Naval Estimates for 1906 (continued).*—*The Officer Personnel.*—M. Bos draws attention to the slowness of promotion and the evil which results from it.

He points out that Enseignes de Vaisseau (Sub-lieutenants) remain seven or eight years in that rank before being promoted to Lieutenant, and that Lieutenants have to wait seventeen or eighteen years before becoming Capitaines de Frégate (Commanders).

"A Lieutenant who has joined the Service through the "Borda" (the Cadet School-ship) is twenty-eight years of age, and sometimes even twenty-nine, before reaching his rank; and except in quite exceptional cases is forty-four or forty-five at least when he becomes a Commander. At the present time a Commander has to wait seven and sometimes eight or nine years before being promoted to Captain, and he is then fifty-one or fifty-two years old. And so on to the higher grades. A Captain does not become a Rear-Admiral at the earliest before he is fifty-six or fifty-seven, or a Vice-Admiral before sixty, and then he has only five years to serve before being compulsorily retired.

"In a general way all naval officers, but Lieutenants in particular, have a right to complain of the slowness of promotion. To remain eighteen years in one rank is a hardship and an injustice, especially as a Lieutenant on shore service receives less pay than a Captain in the Army. The injustice of this treatment is evident when it is remembered that in time of peace an officer of the Army can live with his family, and in other respects leads a life less hard than a Lieutenant who is serving abroad, and who, in addition to the hardships of climate to which he is exposed, is also separated from all those belonging to him. It is necessary, therefore, that the pay of Lieutenants should be raised.

"As we have already remarked, promotion is so slow even in the higher grades, that all officers from Commander up to Vice-Admiral are, the one and the other, too old for the posts that they hold.

"The duties of an Admiral commanding a squadron or a Rear-Admiral commanding a division are of the most absorbing nature at sea in time of peace, and still more so in time of war; they have to pass sleepless nights, to be always on the *qui-vive*, to keep their heads clear, and give precise orders. That there are men of sixty years of age who have preserved their physical powers and vigour of mind in a remarkable degree, nobody doubts; but there are a great many, even with the best will in the world, who are not equal to the demands that might be made upon them, either physically or otherwise.

"At the age of forty-five Napoleon I. found himself extremely worn, and regretted openly that he could no longer do what he had done easily a few years earlier. All Generals and seamen whose names are recorded in history have said the same thing. It is not only physical vigour and vigour of brain that is required, but the spirit of initiative, of daring, sometimes even of rashness, but these are the attributes of youth.

"Similarly, a Captain promoted at fifty-one or fifty-two, when in command of a ship, is unlikely to risk one of those daring moves which may save a ship or change the fate of a battle. The Commanders of small ships, being much younger, will dare much more, as we have seen in China under Admiral Courbet.

"French opinion has been much struck by the reflections inspired by the presence of the English fleet at Brest. Most of the naval writers remarked upon the comparative youth of the Captains of the English battle-ships, whose mean age was about 39, that is, twelve or thirteen years younger than ours. We could say the same thing of the Com-



manders of German, American, and Italian ships. In regard to the Japanese, they are also much younger and are kept constantly at sea, training their men and taking advantage of the initiative left to them by Admiral Togo. With what good results the world now knows. The Russian officers, on the other hand, often very old, were distinguished by their indifference to their duties and their disdain for the education of their men.

"Under the ancient *régimé*, our Admirals and Captains were almost all young men, and their glorious exploits are recorded in history. The duty now devolves upon us of rejuvenating the cadres of our senior officers.

"In truth, we ought to promote our Commanders not later than thirty-five and our Captains at thirty-eight. A Rear-Admiral ought to be promoted to that rank at forty-five and a Vice-Admiral at forty-eight. On the other hand, it will be well to limit the age for command at sea to fifty-five; when past that age Vice-Admirals should become the Maritime Prefects. When commanding afloat they will have acquired all the experience necessary to enable them to administer advantageously our harbours and dockyards; there are also certain appointments open to them in Paris on Committees and the Superior Council of the Navy. From forty-five to fifty-five a man is in full possession of his physical and intellectual powers, but after that he unquestionably is not so well fitted to stand the hardships of service at sea; bodily fatigue and physical depression may fatally benumb his intelligence. Of course, there are exceptions, but in these matters it is necessary to reason from the generality of cases. As far as the command of ships at least goes, nobody will deny that Captains between thirty-five and forty-five are much more likely to take risks than men of fifty-five and sixty."

M. Bos admits that the rejuvenation of the officers' corps, desirable as it is, must necessarily be a work of time, and he suggests, in view of the profound discouragement existing, particularly among the Lieutenants, that the old rank of Corvette-Captain should be reintroduced into the Service. Were this done, it would permit of an immediate lightening of the Lieutenants' list, and would be hailed with satisfaction by many among them. The new Corvette-Captains, promoted to that rank at thirty-two or thirty-three, should have command of all the smaller cruisers, the squadron repeating-ships, despatch-vessels, and of the torpedo-boat, submarine and submersible groups; and then from this rank would commence the selection of officers for further promotion. M. Bos does not suggest what the method of selection should be, but he considers that when the time comes, the Minister of Marine will find himself able to strike off many officers for various reasons from the list for promotion to Frigate-Captains, and for those officers passed over there are many shore appointments that could be thrown open to them.

M. Bos notes that the Minister of Marine is disposed to favourably consider the recommendations of the Committee on this point.

Coming next to the question of the warrant and petty officers and men, M. Bos records that quite recently the pensions for petty officers have been increased—a wise step in view of the devotion and high professional attainments of these men, who are the soul of the ships' companies. He also recommends that more warrant officers should be promoted to the rank of Sub-Lieutenant, as work can always be found for them.

In regard to the provision of men, M. Bos points out that for ships in commission in 1895, 23,492 men were required; in 1900, 26,685; in 1905, 29,264; while in four years the minimum required will be 36,500.

The total effectives numbered 45,410 in 1895; 47,362 in 1900; and in 1905, 49,829.

In Germany in 1903 the *personnel* (petty officers and men) numbered 35,685, an increase of 2,277 over the previous year; in 1904 there was an increase of 2,500. In 1917, in accordance with the provisions of the law of the 12th June, 1900, these numbers will be increased to 54,420.

The following table will show the proportion of the increase of the *personnel* between 1895 and 1904 in different Navies:—

	Per cent.
France - - - - -	9.73
England - - - - -	49.80
Germany - - - - -	77.40
Italy - - - - -	10.49
Russia - - - - -	85.37
The United States - - - - -	134.02
Japan - - - - -	178.32

The recruits for the fleet are drawn from:—

1. The *Inscription Maritime*;
2. Men entered specially under Articles 59 and 63 of the Act of 15th July, 1889;
3. Young men who elect to do their service in the Navy.

The special engagements under No. 2 only affect from 350 to 500 men annually, as they are reserved for boys trained in the Seamen's School and for engineering and mechanic apprentices.

M. Bos is of opinion that recent changes in the Regulations, lowering, among other things, the term of service from four years to two, will result in a serious diminution of men available for service in the fleet, and that if steps are not taken to find a remedy, the country will find itself in possession of a fine fleet but without the men to man it.

He draws attention to the fact that the strength of the English Navy lies in the long-service system of recruiting of the *personnel*, and he sees no reason why a system which has answered so admirably on this side of the Channel should not prove equally successful if adopted in France. The Committee therefore recommend the adoption of a ten years' system of enlistment for the Navy, with the option of re-engaging at the end of the first term for a second similar period, at the end of which a man will be entitled to a pension. This will give an assured career under excellent conditions, and is certain to attract the requisite number of men into the Service, and although the cost will necessarily be higher than under the present system, yet the Committee have no hesitation in recommending that the necessary sacrifices should be made in view of the great benefit which will be entailed on the country.—*Rapport du Budget Général de l'Exercice, 1906 (Ministère de la Marine)*.

(To be continued.)

## II.

The "Temps" Article on the English Submarines (concluded):—

"In a preceding article we showed that in the last 5 years (1900-1905) England has laid down 28 submarines of a total tonnage of 6,330 tons, while France during the same period has laid down 38 with a total tonnage of 6,048 tons. M. Charles Bos, reporter of the Budget de la Marine, states in his report that while France was still tentatively building boats of both small and large tonnage, England from the first has gone forward with a steady increase in displacement.

"With us there have been lively discussions regarding the rival merits of the submersible and the submarine proper, each having its ardent

partisans; but while discussing, we do not seem to have perceived that both types are tending to unification in the large boats of the 'Holland' class that are being built in England. These large submarines of 350 tons, with their vast superstructure nearly the full length of the vessel, their 800-H.P. engines and 14 or 15-knot speed, have not, it is true, the double skin that our submersible boats possess, but they have, nevertheless, their principal qualities and are a sort of embryo of the future sea-going submarine—the 500 or 600-ton boats which the English have now under consideration, and which will no doubt be admissible instruments of attack. We will not pursue this point further, but let us enquire how England has found it possible to construct a submarine flotilla without previous preparation and in so short a time, comparing favourably with that of France. This rapidity of construction is all the more suprising when we note that in France it takes on an average 30 months to build a submarine and 18 months to build a submersible, and that some of our submarines have taken much longer; for instance, two of the 'Aigrette' class, laid down in 1903, are still far from completion, and also the 'Oméga,' of the same year, though these vessels were to have been completed in 1904. The same may be said of our submarines 'Y' and 'Z,' laid down in 1901. The latter was not ready for her trials till the spring of 1905, and the former was only launched last July, so that they have been nearly 4 years building. How is it, then, that in France a submarine takes sometimes 48 months to build, whereas in England much larger vessels are completed in 18 months? The reply to this question is a difficult one, depending as it does on different factors. We know that in France the work of building submarines is entirely confined to the Government yards, while in England the private firm at Barrow-in-Furness have built for the British Admiralty entirely on their own responsibility, though under Admiralty supervision.

"On examining this matter closer, however, it would appear that the building done in our Government yards is simply that of the hull, nearly the whole of the internal installation being provided by private firms. With us there are three parties concerned in the production of a submarine: the engineer designers of the Rue Royale, the dockyard officials which construct the hull and complete the vessel, and the private firm, generally at Paris, which contracts for all the internal fittings and machinery. We need not therefore be astonished at the delay which results, due to the multiplicity of the exchange of views between three parties some hundreds of kilometres apart. It is here that the English Navy has the advantage, as the building yard at Barrow has been entirely and solely responsible from beginning to end for the 28 'Holland' submarines which constitute the British flotilla, allowing the designers of the vessel to follow on the spot every stage of her construction, whereas in France, though the designer issues the plans, he has nothing to do with the construction; and as for the private firm which furnishes the machinery, after the formal receipt the connection ceases, and no information as to the trials is given which might induce them to suggest improvements.

"The objection raised with us to constructing submarines by private firms is that secrecy is necessary; but who believes in this fable in these days? The example of England, the United States, Russia, Japan, and others is all against it.

"The specialisation of our dockyards in the construction of submarines is prejudicial to the development of submarine navigation, as it eliminates many scientific minds who would help in the solution of the



problem. Be it far from us in any way to disparage or depreciate the devoted work of our naval designers, but all the same, we can say without exaggeration that France would find in her private yards engineers of equal merit and devotion.

"If we consider the matter fairly, there can be no doubt that on account of their system of work, our arsenals are to blame for the delay which so frequently takes place in our new constructions. An example of this delay is given by M. Charles Bos in his report, namely, the case of the two armoured cruisers 'Montcalm' and 'Dupetit Thouars,' both of the same dimensions, tonnage, and armour, and commenced at the same time—April, 1897. The 'Montcalm' was built by the Chantiers de la Méditerranée at la Seyne, and the 'Dupetit Thouars' in the Government dockyard, Toulon. The former was completed at the end of 1901, and has now been nearly three years in commission; the latter, 7½ years after her commencement, is still far from being ready, and is only just beginning her trials, and it has taken 75 per cent. more time to complete her than was required for the 'Montcalm,' showing want of organisation and method in the dockyard. It is probable that the delays in completing the 'Aigrette,' 'Cigogne,' and submarines 'Y,' 'Z,' and 'Oméga' are due to the same causes. When we remember that the adoption of the 8 hours' day and the suppression of piece-work have notably increased the cost of building in our dockyards, and that at the present time we are in the midst of a general dockyard strike, it would appear to have been better if we had not made the construction of our submarines a State monopoly.

"In conclusion, it will be well to bear in mind the prediction of the reporter of the Budget, that 'if we do not make haste, in four years England will have passed us.'"—*Le Temps*.

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GERMANY.—The following are the principal promotions and appointments which have been made: Rear-Admirals—Graf von Moltke to be Inspector of 1st Naval Inspection; von Usedom to be Superintendent of Kiel Dockyard. Kapitän zur See—von Eickstedt and Coerper to be Rear-Admirals; Engel to Command of 2nd Dockyard Division; Becker to "Deutschland"; von Dassel to Command of Boys' Division; Weber for service at the Ministry of Marine.

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*The Past Naval Year.*—During 1905 the two new first-class battle-ships "Preussen" and "Hessen"—two of the "Braunschweig" class—each of 13,200 tons displacement, have been completed, commissioned, and taken their place in the 2nd Squadron of the Active Battle Fleet; two first-class armoured cruisers, the "Roon" and "Yorck," of 9,500 tons displacement each, have also been completed; the latter having finished her trials has taken her place as flag-ship of the Rear-Admiral Commanding the Scouting (Cruiser) Squadron of the Battle Fleet, while the former, as soon as her trials are completed, will become the flag-ship of the Commodore Commanding the 2nd Division of the Squadron; in addition, three small cruisers, the "Berlin," "München," and "Lübeck," have been completed; of these the first-named has joined the 2nd Division of the Scouting Squadron, while the other two are still carrying out a series of competitive trials, the "Lübeck" being fitted with turbines.

Approaching completion are the two first-class battle-ships "Lothringen" (the last of the "Braunschweig" class) and "Deutschland," of 13,200 tons displacement, both launched in 1904, while two others of the

same class, the "Hannover" and "Pommern," were launched last year. No armoured cruiser was launched, but three small cruisers, the "Leipzig," "Dantzig," and "Königsberg," took the water. Building and to be launched this year are the two battle-ships "Q" and "R," also of 13,200 tons—under construction at the Schichau Yard, Dantzig, and the Germania Yard, Kiel, respectively—which will bring the number of this group of powerful battle-ships up to ten, the last five, in which the "Deutschland" is included, being slightly superior in some details in their armour protection to their five predecessors of the "Braunschweig" class. There are also building two first-class armoured cruisers, "C" and "D," of 11,500 tons displacement, laid down last year in private yards at Bremen and Hamburg respectively, and three small cruisers, the Ersatz "Meteor," Ersatz "Wacht," and Ersatz "Blitz."

It is further proposed to lay down during the current year two more battle-ships, which are to have, roughly, a displacement of 15,000 tons, which are to replace the old third-class battle-ships "Baiern" and "Sachsen," launched as long ago as 1878; a first-class armoured cruiser, "E," of 12,000 tons displacement; two third-class cruisers, and two torpedo destroyer divisions of six boats each. The two third-class cruisers are to replace the old despatch-vessels, "Pfeil" and "Komet," launched in 1882 and 1892 respectively.

The following table gives a list of the ships completed and under construction last year and to be laid down this :—

Name.	Type	Displacement.	Date when laid down, launched, or completed.	Where built or building.
Preussen ...	Battleship	13,200	Completed 1905 ... ..	Stettin
Hessen ...	"	13,200	" 1905 ... ..	Kiel
Lothringen ...	"	13,200	Launched 1904 ... ..	Dantzig
Deutschland...	"	13,200	" 1904 ... ..	Kiel
Hannover ...	"	13,200	" Sept. 29, 1905	Stettin
Pommern ...	"	13,200	" Dec. 2, 1905	Wilhelmshaven
Q <sup>1</sup> ... ..	"	13,200	Begun 1905 ... ..	Kiel
R <sup>1</sup> ... ..	"	13,200	" 1905 ... ..	Dantzig
Ersatz Bayern	"	18,000	To be begun 1906...	—
Ersatz Sachsen	"	18,000	" 1906... ..	—
Roon ... ..	{Armoured Cruiser }	9,500	Completed 1905 ... ..	Kiel
Yorck ... ..	"	9,500	" 1905 .. ..	Hamburg
C ... ..	"	12,000	Begun 1905 ... ..	Bremen
D <sup>1</sup> ... ..	"	12,000	" 1905 ... ..	Hamburg
E ... ..	"	12,000	To be begun 1906...	—
Lübeck ... ..	{Protected Cruiser }	3,200	Completed 1905 ... ..	Bremen
Berlin ... ..	"	3,200	" 1905 ... ..	Dantzig
München ...	"	3,200	" 1905 ... ..	Bremen
Leipzig .. ..	"	3,200	Launched Mar. 22, 1905	Bremen
Dantzig ...	"	3,200	" Mar. 22, 1905	Dantzig
Ersatz Meteor	"	3,200	Begun 1903 ... ..	Kiel
O <sup>1</sup> ... ..	"	3,200	" 1905 ... ..	Dantzig
Ersatz Wacht	"	3,200	" 1905 ... ..	Bremen
Ersatz Blitz ...	"	3,200	" 1905 ... ..	Stettin
Ersatz Pfeil...	"	3,200	To be begun 1906...	—
Ersatz Komet.	"	3,200	" 1906... ..	—

<sup>1</sup>Details uncertain.

The Supplementary Navy Bill laid before the Reichstag last autumn allows for the construction between the present year and 1917 of 18 battle-ships, 13 armoured and 24 small cruisers, the Navy Law of 1900 having

allowed for each of these classes, 17, 10, and 29 vessels respectively; 17 of these battle-ships will replace older vessels, viz., the four ships of the "Sachsen" class, the "Oldenburg," the 8 coast-defence vessels of the "Siegfried" class, and the "Brandenburg," with her three sisters. In addition, the 16 destroyer divisions of 6 boats each (96 boats), which are being and to be constructed under the Bill of 1900, are to be increased to 24 divisions, making a total of 144 boats.

The building programme, 1906-1917, is to be carried out as follows:—

Year of First Vote.	Navy Act and Supplementary.			Destroyer Divisions.	Cost of Construction and Armament.	
	Battle- ships.	Cruisers.			Million Marks.	£
		Large.	Small.			
1906	2	1	2	2	117	= 5,728,125
1907	2	1	2	2	131	6,413,542
1908	2	1	2	2	136	6,658,333
1909	2	1	2	2	145	7,098,958
1910	2	1	2	2	148	7,245,832
1911	1	2	2	2	147	7,196,874
1912	1	2	2	2	144	7,050,000
1913	1	1	2	2	137	6,707,291
1914	1	1	2	2	126	6,168,750
1915	1	1	2	2	119	5,826,041
1916	1	1	2	2	112	5,483,334
1917	2	—	2	2	113	5,532,292
	18 Including one still to be built under Act of 1900.	13 Including the six Armoured Cruisers under the Supple- mentary Act, 1906.	24 Including one still to be built under Act of 1900.	24	—	—

—*Etat für die Verwaltung der Kaiserlichen Marine, 1906.*

*Steam Trials.*—The new first-class battle-ship "Hessen" has concluded her trials satisfactorily. During a 24 hours' coal-consumption trial, with the engines developing 11,384-I.H.P., the mean speed was 16·6 knots, with a coal consumption of 0·791 kg. (1·75 lbs.) per I.H.P. per hour; at a further trial, with the engines developing 16,900-I.H.P., the speed attained was 18·2 knots. In a 6 hours' forced draught trial, with the 8 water-tube boilers, the engines developed 14,285-I.H.P., and with the 6 cylindrical ones, 4,364-I.H.P., making 103 and 79·8 revolutions respectively, the coal consumption with the cylindrical boilers being 0·822 kg. (1·81 lbs.) per I.H.P. per hour.

The new first-class armoured cruiser "Yorck" has also concluded her trials. In her preliminary trials last December in Echenförde Bay, with the engines developing 12,930-I.H.P., and making 99·6 revolutions, with an air pressure of 13·5-mm. (0·53 inches), a mean speed of 19 knots was obtained; under forced draught, with an air pressure of 22-mm. (0·866 inches), the engines developed 19,183-I.H.P., giving a speed of 21·1 knots. At the trial runs for testing the best pitch for the screws, the best



results were obtained with a pitch of 6·8-cm., which, with the engines developing 19,044-I.H.P., gave a speed of 20·7 knots, which, when steaming in deep water, will mean a speed of over 21 knots. At the official trials in February during a 24 hours' run with the side screws only, using 8 boilers, the engines developed 3,880-I.H.P., making 74·2 revolutions and giving a speed of 12·9 knots, with a coal consumption of 0·86 kg. (1·9 lbs.) per I.H.P. per hour. During another 24 hours' run with all boilers alight, the engines developed 13,711-I.H.P., making 103 revolutions, and giving a speed of 19 knots, with a coal consumption of 0·896 kg. (1·97 lbs.) per I.H.P. per hour. During a six hours' run in deep water under forced draught the engines developed 20,295-I.H.P., making 118·6 revolutions, and giving a speed of 21·4 knots; coal consumption not recorded.

The third-class turbine-propelled cruiser "Lübeck" has been continuing her trials. At her last run, using four large and four small propellers, the following results were obtained:—

I.H.P.	Revolutions.	Speed.
2,337	353·3	14·65 knots.
3,080	379·7	15·63    "
4,003	415·1	17·1     "

The six new destroyers of the Series "S120" to "S125" have attained the following mean speeds on the three hours' acceptance trials under forced draught:—

"S120" -	-	-	27·01 knots	} With a displacement of 390 tons.
"S121" -	-	-	27·09   "	
"S122" -	-	-	27       "	
"S123" -	-	-	28·27   "	
"S124" -	-	-	28·30   "	
"S125" (turbines)		26·60	"	{ With a displacement of 460 tons.

The turbine-engined "S125" has made some further three hours' forced draught trials, when she averaged 27·75 and 28 knots; although of a nominal displacement of 460 tons, it is stated that in reality her displacement is no higher than that of the other boats "S120" to "S124." The greater speed of "S123" and "S124" over "S120," "S121," and "S122" is due to improved screws, and that they keep steam better, and certain alterations are accordingly to be made in the latter.

*New Ships.*—On the 2nd December the new first-class battle-ship "U" was launched from the Vulcan Yard at Stettin, and received the name of "Pommern"; she is the third of the "Deutschland" class to take the water, and her dimensions are as follows: Length, 430 feet 2 inches over all, 397 feet 6 inches between perpendiculars; beam, 72 feet 10 inches; mean draught, 26 feet, with a displacement of 13,200 tons. Protection is afforded by a complete water-line belt of Krupp steel, with a maximum thickness of 9·8 inches amidships, tapering to 5·9 inches and 3·9 inches at the extremities; above the water-line belt is another, 7·9 inches thick, reaching to the main deck, forming a central citadel, some 240 feet long, while on the main deck is a casemate battery for the secondary armament, protected by 6-inch armour; the barbettes for the heavy guns are protected by 11-inch armour, with hoods of the same thickness, and the casemates on the upper deck for four of the 6·7-inch guns are 6-inch; the transverse

bulkheads are 6-inch, the foremost conning-tower 11·8-inch, and the after one 6-inch. The engines are to develop 16,000-I.H.P., giving a speed of 18 knots, steam being supplied by 12 Schultz-Thornycroft water-tube boilers. The ordinary coal storage will be 800 tons, which can be increased to 1,800 tons, with 200 tons of oil fuel. The armament consists of four 11-inch guns, mounted in barbettes fore and aft, fourteen 6·7-inch Q.F. guns, ten in the main battery and four in casemates on the upper deck, twenty-two 3·4-inch guns, with eight machine guns. There are some slight improvements in the ships of this class over those of the "Braunschweig" type; the armour belt is ·8 of an inch, the citadel armour 2 inches, and the casemate battery 1 inch thicker than in the earlier ships, while the four 6·7-inch Q.F. guns on the upper deck have been placed in separate casemates instead of in turrets.

The new third-class cruiser Ersatz "Wacht" is to be built at the Vulcan Yard, Stettin, and to be fitted with turbine engines, which will be supplied by the German Turbine Parsons Company. They are to develop 13,600-I.H.P., as against the 11,600-I.H.P. of the "Lübeck," and are estimated to give her a speed of 24 knots, as against 23 of the last-named ship. Her displacement will be 3,410 tons, against the "Lübeck's" 3,250; her length 354 feet 2 inches; her beam 42 feet 3 inches, and her draught 13 feet 9 inches; she is thus 12 feet longer and 3 inches more beam than the "Lübeck." It is understood that the dimensions and speed of the two other third-class cruisers, the Ersatz "Pfeil" and the Ersatz "Komet," will be the same as those of the Ersatz "Wacht," but they will be fitted with reciprocal engines.

The five protected cruisers of the "Hertha" class are being modernised, at a cost of £50,000 each; among other improvements, they are to be fitted with water-tube boilers. The "Freya" and "Veneta" were taken in hand last year, and work on the "Hertha" and "Victoria" will be commenced as soon as the necessary sum has been voted by the Reichstag. The "Hansa," the fifth of the class, is at present in China. These vessels have a displacement of 5,800 tons and a speed of 18·5 knots. Their armament, which consists of two 8·2-inch Q.F. and eight 5·9-inch Q.F. guns, is protected by armour, the 8·2-inch guns in hooded barbettes of 3·9-inch steel, one forward and one aft, and the 5·9-inch Q.F. guns, four in turrets and four in casemates, 3·9-inch thick, with 3·1-inch ammunition hoists. The fore conning-tower is protected by 8-inch armour, and the after by 8·9-inch, while there is a funnel glacis 4·7-inch thick.—*Marine Rundschau* and *Neue Preussische Kreuz Zeitung*.

UNITED STATES. — *Report of Secretary of the Navy for 1905.* — The report of Hon. Charles J. Bonaparte shows throughout a disposition on the part of the new Secretary of the Navy to do his own thinking and to subject the various recommendations of his subordinates to the test of his own judicial judgment. Considering first the subject of the reorganisation of the Navy Department, he says:—"My experience in this Department has convinced me that its work is done, on the whole, with great fidelity and marked efficiency; but I consider these results the fruits not of the system, but of the high character, both with respect to integrity and with respect to competency, of the officers employed."

Theory is against the system of autonomous bureaus. Nevertheless, it is not well to make too radical changes in a routine which is under-

stood and under which the work is being done well on the whole. The Secretary says :—

“ I do not advise, therefore, any immediate changes in the organisation of the Department, but I think the legislative branch of the Government may with advantage consider the advisability of reducing the number of bureaus and redistributing their work. To this end I submit the following tentative suggestions :—

“ The four Bureaus of Yards and Docks, Construction and Repair, Equipment, and Steam Engineering all deal, in last resort, with the same subject-matter; that is to say, the ships of the Navy. If they constituted mere divisions of one great bureau or sub-department, I believe this change would tend toward unity of direction, increased efficiency, and the elimination of discussion and delay. In like manner, the Bureaus of Navigation and Medicine and Surgery, the Marine Corps, the Office of the Judge Advocate General, and the Naval Academy are all concerned with the same general subject, namely, the *personnel* of the Navy; and this group of organisations could be, in my judgment, consolidated under one head with the like advantage, retaining, of course, their individual organisation under this general supervision.

“ The Bureaus of Ordnance and of Supplies and Accounts would not form a part logically of either of these two groups. If they were left as at present, there would be four sub-divisions of the Department dealing respectively with men, ships, armament, and supplies, an arrangement certainly more symmetrical and, as it seems to me, more promising than the present. I should, however, recommend that, in any scheme of re-organisation, the Bureau of Supplies and Accounts should be termed the Bureau of Supplies and Payments, the part of its work referring strictly to “accounts” being transferred to a civilian accountant to be attached to the immediate office of the Secretary. As already stated, I submit these observations without recommending any present action on the subject, except its careful consideration by the appropriate committees of the Congress with a view to the development of a well-digested scheme of departmental reorganisation.”

The creation of two vice-admirals is recommended, one, the senior, for the Atlantic Fleet, and the junior for Asiatic waters, and the reduction of the rear-admirals by two. While a naval officer is well fitted for command at forty, he retains his ability for twelve years longer, as naval officers, if they avoid intemperance, lead a far more healthful life, with much less tendency to nervous exhaustion, than men of the same age in commercial pursuits or the learned professions in civil life.

“ Nevertheless,” says the Secretary, “ it must be admitted that the comparatively advanced age at which, under existing circumstances, an officer can reasonably expect to become a captain is a hardship to the commissioned *personnel*, and undesirable in the general interest of the Service. As a means of affording some measure of immediate relief, I suggest the re-establishment of the grade of commodore and the promotion of from twelve to sixteen of the oldest captains to this rank. Of course, this would lead to the promotion of the like number of commanders to be captains, of lieutenant-commanders to be commanders, and of lieutenants to lieutenant-commanders.”

It is not considered that it is beneath the dignity of a commodore to command a single ship, and for many years the law required that first-rate vessels should be commanded by commodores. Besides, as battle-ships or armoured cruisers would, when on detached service, be attended by a collier and probably by a tender, this would create a command proper for



a commodore. There is just a suspicion of irony attached to this suggestion. As he does not believe in reducing the age of retirement according to rank, the Secretary says:—

“I recommend to serious consideration a more radical measure, whereby every officer who has served, say, five years in one grade shall be either promoted to the next higher grade or dropped from the Service, if an ensign or lieutenant, or else compulsorily retired if he has attained command rank, and the number in each grade shall not be fixed by law, but left to depend upon the number of officers found qualified. Such a measure would be, if not without precedent, at least novel, and at first sight it might seem to involve undue expense. I believe, however, that its cost would prove much less than may be feared; and, without advising immediate action in this direction, I feel that it deserves attention and discussion.

“I recommend in this connection that Sec. 1,362 R.S. be amended by dropping ‘midshipman’ from the list of ‘Line officers of the Navy of the United States,’ and that Art. 36 of the articles for the government of the Navy be amended by adding the words, ‘The provisions of this article shall not apply to midshipmen.’ The Secretary of the Navy has exercised for many years without question the power of summary dismissal for misconduct or breach of duty with respect to midshipmen under instruction at the Naval Academy. Recently his right to do this has been questioned by reason of the two statutory provisions above mentioned, and as this power is in my judgment essential to the proper discipline of the Academy, I advise that all room for doubt respecting it be removed by appropriate legislation.”

The Secretary does not think that the *Personnel* Bill offers the best solution for the engineering problem, but to change it would be embarrassing, and a change of policy is in itself an evil. In view of this fact and the further fact that the chief difficulty is with engineering duty on shore, the Secretary reaches the following conclusion:—

“We must remember that some traditions of our Navy constitute obstacles to its thoroughgoing enforcement. Steam was introduced into war-ships long after the organisation of the Navy, and some officers have not yet outgrown the idea that the engines of a ship are in some sort an excrescence, and those in charge of them rather auxiliaries to the fighting force than members of it. I believe that with a thoroughgoing and persevering application of the law, and the consequent assignment to engineering duty of all junior Line officers in turn, and their retention on such duty long enough to insure adequate provision for the engineering needs of all our commissioned ships (so far as the limited number of our officers may permit), it will be possible to provide a thoroughly satisfactory engineering service at sea.

“To speedily attain the end desired, we must relinquish some theoretical advantages, and I therefore submit for your consideration and that of the Congress the advisability of promptly organising a service of marine engineers for shore duty only, corresponding to the civil engineers now employed at our naval stations. I feel confident that a corps of this character could be readily recruited from graduates of the best schools of engineering in the country, and that after a comparatively brief apprenticeship at our several navy yards, under the instruction of officers belonging to the former corps of engineers, they would be fully qualified to replace these officers, upon the retirement of the latter, in all forms of shore duty. It will be noted that by this suggestion the alarming scarcity of competent officers for such posts would be remedied

within a very short time, whereas the system suggested in the report of the Engineer-in-Chief, to which I have referred, could bear fruit only after a period of many years.

"I recommend, as a further measure of relief, that the number of warrant machinists now allowed by law be increased by at least one-third, and, to render service in this capacity attractive to the class of men we desire to obtain for it, they should be rendered eligible not only for commissions in the Line on the same terms as other warrant officers, but for appointment to the lowest grade of the suggested corps of marine engineers, of course, upon condition of passing satisfactorily a very thorough examination to establish their qualifications."

The Secretary proposes the organisation of a small civilian force attached to the Navy, to be recruited from the most competent men in its civil establishment, and which should have relative rank and right of retirement on the same basis as the other non-combatant branches of the Service. This might also remedy the hardships of the paymasters' clerks, whose long and meritorious services should be recognised, but not by giving them warrant rank, as they are the appointees of the paymasters. Compensation should be provided for civilian employes injured in Governmental work. The Secretary should have authority to adjust such claims by compromise. He says:—"For minor clerical positions, involving routine duty and offering little prospect of promotion, I have endeavoured to encourage the employment of women, against which some measure of more or less unreasonable prejudice seems to exist on the part of some officers."

For the Navy, 3,000 men are required. It is true that the Navy is not recruited up to the maximum, but this is due to rigid requirements which may be somewhat unnecessarily high. In an emergency recruits would be forthcoming in ample number and of excellent quality. On the subject of desertion the Secretary says:—

"Undoubtedly there are many more desertions than there should be from the Navy, but the evil can hardly be said to reach alarming proportions, and most of the suggested remedies would prove, in all probability, either ineffective or likely to aggravate this evil. Desertion is, in my opinion, due substantially to two causes—either bad men or bad officers. A certain percentage of the recruits secured for the Service are and always will be 'misfits,' unsuitable for any useful employment, or at least, for employment in the Navy. Desertion in such cases indicates an appreciation of this fact on their part, and may be described, so far as the Service is affected by it, as a process of healthful excretion.

"When, however, a ship loses men with good records in any considerable numbers from this cause, the fault, in my judgment, is usually with the officers or some one or more among them. The intelligence of the men we enlist enables them to see the necessity for strict subordination and unquestionable obedience in a military organisation, especially on board ship, but this same intelligence renders them critical as to the conduct and demeanor of their superiors, and demands a higher standard of professional merit on the part of the latter.

"The present law does not, in my opinion, discriminate sufficiently between the punishment to be awarded these different classes of offenders, and should be amended so as to allow of greater discretion in this respect, although it has been so administered by courts-martial and the Department as to mitigate, if not to remove, the undesirable features of its comparative inflexibility."



Referring to the incident of the dismissal of a civilian employé for refusing to admit a sailor in uniform to his house, the Secretary says :—“I recommend that the Congress make any refusal on the part of the proprietor of a theatre or other place of amusement, an innkeeper, or a common carrier, to furnish accommodation to an orderly and well-behaved person in the naval service able and willing to pay for such accommodation an offence against the United States, punishable by fine and imprisonment.”

As to the incident of the fatal boxing match on a naval vessel, the Secretary says :—“Art. 392, N.R., requires a commanding officer to ‘encourage the men to engage in athletics, fencing, boxing, boating, and other similar sports and exercises.’ It was, therefore, not only permissible but the duty of the officers concerned to allow this match. Suitable gloves of 5-ounce weight appear to have been used, the injured man received prompt medical attendance, and everything connected with the match appears to have been fairly and properly arranged. This incident has shown, however, that boxing is a rough sport, involving more danger to the participants than is always appreciated, and some further regulation to insure a more thorough supervision of such contests appears to be desirable.”

An increase of some 1,200 officers and men in the Marine Corps is absolutely necessary. The head of the corps should have the rank of major-general, with a brigadier-general as second-in-command.

There is an increase of 11,500,000 dollars in the appropriations asked for, though the Bureau estimates have been reduced 15,000,000 dollars. There is, however, a reduction of 18,000,000 dollars in the amount asked for the increase of the Navy. There is a very heavy increase in the estimates of the Bureau of Ordnance, and considerable to the appropriations for Equipment and Steam Engineering, and for pay maintenance of the Navy and Marine Corps.

Numerous improvements at naval stations require a heavy increase for public works, the advance naval bases at Guantanamo and Olongapo being heavy items. Equipment and Steam Engineering have been embarrassed by insufficient appropriations.

The Secretary asks for the repeal of the restriction upon shipments in other than American bottoms. It does no good and causes an enormous increase of expense.

In response to the sentimental demand for the rebuilding of the “Constitution,” attention is called to the fact that but few of the timbers of the present ship were in the original vessel, and it is suggested that the vessel be broken up and these timbers incorporated in an armoured cruiser to perpetuate the name “Constitution” on the Navy register.

The building of a second floating dry dock is recommended. An increased sum is asked for to make it possible to build the two fleet-colliers for the Navy. The place and method of construction should, however, “be left invariably to the discretion of the Department. Our private shipbuilding plants are of great importance to our national defence, and it has been found by experience that, ordinarily, vessels can be built at less expense and more rapidly in private than in Government yards.”

On the important subject of the increase of the Navy, the Secretary says :—

“It is universally recognised by those qualified to speak that *moral* and gunnery being equal, victory will usually fall to the heavier battery; that torpedo craft and mines have a real, although a somewhat restricted, field of usefulness in naval warfare, and that superior speed is of value



in a fleet, not merely because it enables the commander to force or avoid battle, but because it is a source of strength in actual conflict.

"On yet other questions, however, we cannot say that any such unanimity exists. The recent war has taught us little, if anything, about the utility of submarines. It has caused, or at least left, much difference of opinion as to the value of armoured cruisers, and it has created a still more serious divergence of views respecting the best limit of size for the future battle-ship.

"The Department has been caused serious concern by the conflicting advice on the last-mentioned question tendered it by its authorised expert advisers.

"After very carefully weighing these divergent views, I feel that it is not as yet sufficiently clear that the larger and more costly battle-ships would have such increased efficiency in battle as to justify the certain addition to the public burdens involved in accepting the views of the General Board. Unless, therefore, you or Congress shall direct otherwise, I shall order the construction of the 'South Carolina' and 'Michigan' on the plans approved by the Board on Construction."

The Department recommends the authorisation of the following additions to the Navy :—

	Dollars.
2 battle-ships ... ..	15,000,000
2 scout cruisers ... ..	4,000,000
4 destroyers ... ..	3,000,000
2 submarines or submersibles ... ..	500,000
1 gun-boat of the "Helena" type ... ..	600,000
2 river gun-boats ... ..	200,000
<hr/>	
Total ... ..	23,300,000

"The same reasons which lead me to think it expedient to enlarge the dimensions of the 'South Carolina' and 'Michigan' lead me to advise that the battle-ships to be authorised be of the type recommended by the Board on Construction. Should professional opinion become substantially unanimous in advocating larger vessels before the construction of these ships is actually commenced, their plans can be of course remodelled," Secretary Bonaparte says.

"It will be observed, however, that I have assumed the grave responsibility of overruling both Boards with regard to the number of battle-ships, and that I have disregarded the advice of the Board on Construction to make all reductions which economy renders needful in other types. In my judgment the Navy needs at least four new destroyers, at least two more scouts, and at least one vessel of the 'Helena' type. I retain two submarines or submersibles for the sake of experiment and by reason of their comparatively small cost, and the two river gun-boats for the last reason and also for their ascertained utility. A very serious responsibility must rest on any civil officer who, in a matter affecting the national defence, disregards the judgment of those qualified to speak as the authorised representatives of expert opinion. I recognise and accept this responsibility within the limits above set forth. In view, however, of the large reduction made by the Department in the estimates of both the General Board and the Board on Construction, I trust that it may meet your views and that of Congress to authorise promptly the construction of the thirteen vessels recommended, as well as the suggested new 'Constitution.'

"By the time any battle-ships which may be authorised at the present session of the Congress shall go into commission, it will be necessary, in all human probability, to relegate the veterans to the Reserve. This is already true with regard to the ten vessels of the monitor type. When the first group of these ships were designed, it was thought that vessels of a special type were needed for coast defence, and in most foreign Navies such vessels were then to be found. This idea is now outgrown. Our experience in the War of 1812, however, no less than the lessons of recent naval warfare, sufficiently establish the comparative uselessness of such ships. I consider it, therefore, urgent that a sufficient number of battle-ships be constructed to take the place of the ten vessels above mentioned; probably one-half as many would be a fair equivalent.

"While any discussion of our future needs and the proper means to meet them must be, of necessity, largely conjectural, I think it may be safely said that if the situation is not complicated by any unforeseen developments, our programme of naval construction for the future, in so far as it relates to our fighting fleet alone, should consist in substituting five new battle-ships and two armoured cruisers for the oldest vessels of these types on our register, and five more battle-ships for the ten coast-defence vessels of the monitor type, and that these substitutions should be made at latest within the next six years.

"It must not be supposed that the vessels thus placed in reserve will be altogether unemployed. In the event of war, we shall need at once a large number of training-ships to receive the thousands of recruits who will have to be immediately enlisted, and of whom the greater proportion will be furnished, it may be hoped, by the Naval Militia of the several States. For this purpose these vessels will be exceptionally well suited, and they will, moreover, form a reserve fleet which may be of great utility in case of disaster to our first line. Without giving our Navy undue praise, it may be fairly described as of great promise. I trust that it may receive such consideration and encouragement from the legislative branch of our Government, and especially such liberal appropriation for its reasonable needs in the present and future as will assure its being what it ought to be—the first element of strength, and of consequent security, in our national defence.

"If circumstances remain as they now are, I see no reason to suppose that the number of ships in our Navy need increase; on the contrary, it is reasonable to anticipate that their number will be reduced, and even reduced materially, within the next five years. The aggregate of our battle-ships, armoured cruisers, and coast-defence vessels built, building, or authorised would seem, according to present indications, sufficient to provide for any contingencies within the limits of probability.

"This statement, however, must not be misunderstood. It does not at all mean that we should give up building new ships; on the contrary, the necessity for vessels of an improved type to take the place of those now recognised as obsolete, or evidently destined to become such, has grown plain and urgent."

## MILITARY NOTES.

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HOME.—The following are the principal appointments which have been made :—

Generals—General J. F. Owen, C.B., to be Colonel Commandant, Royal Artillery.

Colonels—Major and Brevet Colonel A. J. Godley, from the Irish Guards, to be an A.A.G., and is granted the substantive rank of Colonel in the Army. Lieut.-Colonel and Brevet Colonel F. Hacket-Thompson, C.B., from h.p., to be a Commandant of Schools of Instruction for Mounted Infantry. Lieut.-Colonel and Brevet Colonel W. Douglas, D.S.O., from h.p., to be an A.A.G., and is granted the substantive rank of Colonel in the Army.

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### COLOURS OF THE CITY OF LONDON TRAINED BANDS, 1642.

#### AUTHORITIES AND NOTES.

Colours, etc.—Symonds's Diary, British Museum Harl. MSS.  
also 986

A Manuscript Book of coloured illustrations in the possession of the Royal United Service Institution, entitled "The Ensigns of the Rebellious City of London, both of Trained Bands and Auxiliaries. Together with the nearest number of these trained Soldiers taken as they marched into Finsbury Fields, being their last general muster, September 26, 1613, Anno Pestiferæ Rebellionis. Opera Gulmi Lovell, Amri."

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*Annual Report of Recruiting for the Year ended 30th September, 1905.*  
—Major-General H. G. Miles, C.V.O., C.B., Director of Recruiting and Organisation issued his Report on the recruiting operations on 1st March last. The Report is divided into four parts :—

1. General Observations and Recruiting for the Regular Army.
2. Army Reserve.
3. Militia, Reserve of Militia, and Imperial Yeomanry.
4. Civil Employment of Discharged Soldiers and Reservists.

#### 1. *General Observations and Recruiting for the Army.*

The number of recruits who joined the Regular Army, excluding those for Colonial Corps, for the twelve months under review amounted to 35,351, and for the Militia 29,941, showing a decrease both for the Regular Army and Militia as compared to the previous twelve months.

During the past recruiting year, the mounted arms had to a considerable extent absorbed the excesses in establishment which had prevailed since the war; it was therefore necessary to cancel the several circulars



permitting men to be prematurely transferred to the Reserve. This permission as regards cavalry soldiers at home was cancelled in December, 1904. In the following March instructions were sent to the General Officers Commanding in South Africa and Egypt, that conversions of service of soldiers belonging to the Cavalry and Royal Horse and Royal Field Artillery were to cease, and that soldiers who, at the expiration of their seventh year of service were abroad, were to be held for the extra year in accordance with the terms of their attestation. Similar instructions were issued as regards the Royal Horse and Royal Field Artillery at home. The transfer to the Reserve of men in these arms of the Service was thus brought down to the normal conditions provided for by regulations, and the absorption of the surplus which existed in the Cavalry of the Line and the Royal Horse and Royal Field Artillery has enabled recruiting for these arms to be gradually re-opened from December, 1904, and since January to come into full operation.

In May last the concession which had been in force since the 1st October, 1904, permitting men of the Infantry of the Line at home to pass prematurely to the Reserve after five years' colour service, provided they could previously obtain a definite promise of employment, irrespective of their character while serving, was cancelled. The premature passing of so many men to the Army Reserve had the necessary effect of reducing the establishment within the numbers voted by Parliament. As regards infantry, it permitted men enlisted for 3 years to be replaced by recruits enlisted for a longer term who would be available for drafts. The following important changes have taken place in connection with the recruiting service during the past year. The Special Army Order of the 6th January, 1905, re-organising the military commands and staff in the United Kingdom, has made a material alteration in the conduct of recruiting. Prior to the issue of this order, every regimental district was in charge of a colonel, who, in addition to his other duties, had the supervision of recruiting within his command. Owing to the amalgamation of regimental districts, there is now one colonel in charge of recruiting over a number of regimental grouped districts. The effect of this system is that while the supervision of recruiting remains under the control of a senior officer, its actual administration in any regimental district is placed in the charge of a major commanding an Infantry Dépôt.

In February last a very important step was taken by the appointment of an officer of the Royal Army Medical Corps as Medical Inspector of Recruits in each command. The object of these appointments is to assist the Principal Medical Officer in his duty in connection with recruiting, and to aid General Officers Commanding-in-Chief and Officers Commanding recruiting areas in co-ordinating the physical standards for Regulars, Militia, Yeomanry, and Volunteers. It is hoped by these appointments to obviate the inconveniences which result from the diversity of opinion and practice as to the eligibility of recruits. The Inspector makes frequent visits to dépôts and other recruiting centres, and pays special attention to the method of physical training. His duty is to supervise the system of physical training, so as to ensure that the physical development of the recruit is attained without undue strain upon his constitution. The reports from the General Officers Commanding in the several commands show that these appointments have been received with general satisfaction, and that the Service has benefited by them. The result has been to obtain a more uniform system of medical inspection in all the districts and an increased medical supervision over the recruit after enlistment.

The following changes of terms of service have taken place during the year :—

*Infantry of the Line, October, 1904.*—From three years with the Colours and nine in the Reserve, to nine years with the Colours and three in the Reserve.

*Cavalry of the Line, January, 1905.*—From three years with the Colours and nine in the Reserve, to eight years with the Colours and four in the Reserve. *September, 1905.*—From eight years with the Colours and four in the Reserve, to seven years with the Colours and five in the Reserve, and the stipulation re-inserted in the attestation that in the case of a soldier serving abroad, he is liable for the extra year's service if required.

*Royal Garrison Artillery, January, 1905.*—Except for artificers, from three years with the Colours and nine in the Reserve, to nine years with the Colours and three in the Reserve.

*The Royal Engineers (Drivers), April, 1905.*—From three years with the Colours and nine in the Reserve, to two years with the Colours and ten in the Reserve.

The effect of the adoption of a three years' term of enlistment for the Cavalry of the Line and the Royal Horse and Royal Field Artillery as regards wastage has been fully felt since April last. In order to keep pace by recruiting with the large number of men passing to the Reserve on completion of their three years' term of service, it was found necessary in September last to lower the standard of height for drivers by 1 inch, the chest measurement remaining as before.

Recruiting for the Cavalry of the Line having been generally re-opened since January last, the figures naturally show a very large increase over those for 1903-4, viz., 2,375 as compared with 489. On the re-opening of Cavalry recruiting it was decided that recruits under 20 were not to exceed 10 stone 7 lbs. in weight, while if over 20 years of age, they were not to exceed 11 stone. To obtain recruits of the necessary class and intelligence, instructions were issued that no recruits were to be accepted who could not write, and recruiting officers were informed that it was not sufficient that Cavalry recruits should merely comply with the standards laid down in the Recruiting Regulations, but that the approving officer was responsible that the recruits taken were, as far as could be judged, suitable for the arm of the Service in which they wished to serve. Owing to the long period during which Cavalry recruiting has been suspended, it has taken some time to again attract a flow of recruits to this arm.

Recruiting for the Foot Guards, while showing a decided increase over the numbers taken for the corresponding period of the previous year, has not been sufficient to bring the several regiments up to Establishment. Recruiting for the Infantry of the Line shows a very considerable decrease in the numbers taken during the previous year.

The figures for October, 1904, as compared with the corresponding month of 1903, showed a falling off of no less than 768 recruits. The three years' term of enlistment was replaced by a nine years' term in November, 1904. For the two following months after the alteration made in the terms of service, the falling off was not so marked; but for no month of the period under review has Infantry recruiting been better than in the corresponding month of the preceding year. The falling

off is chiefly to be attributed to the general re-opening of recruiting for the mounted corps.

The first two quarters of the calendar year were those in which the falling off in recruiting for Infantry of the Line was most marked. For these two quarters the percentage of medical rejections showed a marked increase, while the number of applicants rejected by recruiters, and consequently not appearing for medical examination, also showed a large increase. For the July quarter the medical rejections resumed a more normal percentage. It may be also observed that the number of recruits who enlisted into the Regular Army from the Militia showed a diminution of no less than 2,829, and it is probable that the bulk of this decrease was felt by the Infantry.

The subjoined table shows the number of recruits enlisted during the twelve months ended 30th September, 1905, for the various arms of the Service, and the number of ex-soldiers who have re-enlisted :—

Arms of the Service.	Ordinary Recruits.	Ex soldiers Re-enlisted. <sup>1</sup>	Total.
Household Cavalry ... ..	123	8	131
Cavalry of the Line ... ..	2,375	5	2,380
Royal } Horse and Field ... ..	3,823	18	3,841
Artillery } Garrison ... ..	2,417	5	2,422
Royal Engineers ... ..	650	1	651
Foot Guards ... ..	2,212	4	2,216
Infantry of the Line ... ..	22,170	73	22,243
Colonial Corps ... ..	473	5	478
Army Service Corps ... ..	887	6	893
Army Ordnance Corps ... ..	107	13	120
Royal Army Medical Corps ... ..	572	1	573
Army Post Office Corps ... ..	15	—	15
Total ... ..	35,824	139	35,963

<sup>1</sup> These re-enlistments of ex-soldiers are merely technical re-enlistments, and nearly all are men who have elected to transfer from the Royal Garrison Regiment to units of Infantry of the Line.

The number of recruits raised for the Regular Army and the Militia by the various agencies during the past twelve months was 34,322.

## II.—ARMY RESERVE.

The strength of the Army Reserve shows a very large increase over the numbers on the 1st October, 1904. This is owing to the numbers of men enlisted for three years who have passed to the Reserve since the commencement of the year. On the institution of the three years' term of enlistment it was anticipated that a greater percentage of such men would have extended their service. They have not done so in the proportion expected, with the result that what has been a loss to the Colours has been a gain to the Army Reserve. The Reserve has been further swelled by the number of men of the Infantry of the Line who were allowed to prematurely convert their Colour service into Reserve service after two years. The following tables, A and B, show the strength of the Army Reserve since 1901, and the numbers belonging to the various arms of the Service, and to each section of the Reserve:—



A.	Date.	Arms of the Service.												
		Household Cavalry	Cavalry.	Royal Artillery.	Royal Engineers.	Foot Guards.	Infantry of the Line.	Army Service Corps.	Royal Army Medical Corps.	Army Ordnance Corps.	Army Post Office Corps.	Army Pay Corps.	Colonial Corps.	Total strength.
	1st Jan., 1901	—	496	1,238	261	349	2,670	275	8	5	1	4	103	5,251
	" 1902	—	285	927	243	237	342	206	8	5	42	1	102	2,398
	" 1903	—	2,028	4,881	1,559	3,904	18,656	1,278	328	55	43	8	125	32,865
	1st Oct., 1903	—	5,599	7,841	2,657	5,790	40,403	2,488	1,095	130	198	17	253	66,471
	" 1904	17	5,773	8,895	2,996	6,281	45,885	3,093	1,280	127	237	17	339	74,940
	" 1905	40	7,298	11,881	3,591	6,874	59,269	3,471	1,441	215	242	20	428	94,770

B.  Date.	Numbers provided for in Army Estimates as probable maximum.	Volunteers.	Sections of the Army Reserve.				
			Section A.	Section B.	Section C.	Section D.	Total strength.
1st Jan., 1901...	90,000	2,163	4	995	106	1,983	5,251
„ 1902...	80,000	1	—	933	233	1,231	2,398
„ 1903...	70,000	—	328	28,759	697	3,081	32,865
1st Oct., 1903...	70,000	—	2,921	55,165	1,741	6,644	66,471
„ 1904...	80,000	—	2,564	62,190	— <sup>1</sup>	10,186	74,940
„ 1905...	104,000	—	4,133	75,257	—	15,380	94,770

<sup>1</sup>Section C has been merged into Section B.

Difficulty was experienced in maintaining Section A of the Army Reserve at its full establishment owing to the passing to the Reserve of time-expired men from abroad in batches at one period of the year instead of gradually throughout the year. The Regulations have therefore been amended so that should there be no vacancy for men to join Section A of the Reserve immediately on arrival home for transfer to the Reserve they may be allowed to do so within three months of such transfer. To increase the efficiency of Section A of the Reserve it has also been laid down that men joining it should be first-class shots. It is satisfactory to note that this section shows a marked increase in numbers for the current year.

#### MILITIA, RESERVE OF THE MILITIA, AND IMPERIAL YEOMANRY.

Recruiting for the Militia for the past twelve months has, it is regretted to state, shown a steady decrease for each quarter. This decrease is no doubt partly attributable to the increased standard for Militia recruits which came into force in November, 1904. But from the reports from the several districts there can be but little doubt that the falling-off must be also ascribed to the uncertainty still existing as to the future of the Force.

In view of this decrease, a circular memorandum was sent to General Officers Commanding at home in February last, in which the following questions were put to them:—

1. Whether the falling-off is due to greater care being taken on the part of all concerned that only good and suitable material is accepted for the Militia;
2. Whether it is due to the increased Militia standards;
3. To the uncertainty prevailing as to the future of the Force;
4. Any other reasons which could be put forward.

As regards (1), the general tendency of the reports received tended to show that greater care was certainly being exercised as regards the class of recruit enlisted. This is partly attributable, of course, to the pains taken to obtain characters for intending recruits. As regards (2), the opinion appears general that the increased standards shut out a certain number of youths of 17 years of age. As regards (3) and (4), in some districts the uncertainty of the future of the Force is held to have had a detrimental effect upon the Militia generally, especially as regards officers. In several instances the reasons given produce the impression that the Militia service generally is not popular with employers of labour, who cannot afford to spare their men for the annual training. Some Militia Adjutants consider that Militiamen often refuse to take in their notices of annual training to prevent the fact that they belong to the Militia being known to their employers.

The aggregate strength of the Militia by arms and distribution is as follows:—

Serving on the	English.	Scotch.	Irish.	Total.	Arms.				
					Royal Artillery.	Royal Engineers.	Infantry.	Royal Army Med. Corps.	Total.
1st Jan., 1901...	64,168	10,031	18,542	92,741	13,535	1,750	77,293	163	92,741
„ 1902...	72,764	11,182	18,899	102,845	14,382	1,959	85,936	568	102,845
„ 1903...	72,694	11,481	18,245	102,420	13,878	1,969	85,741	832	102,420
1st Oct., 1903...	62,455	10,210	17,078	89,743	13,310	2,049	73,643	741	89,743
„ 1904...	59,287	10,048	17,156	86,491	13,352	2,020	70,421	698	86,494
„ 1905...	57,601	10,238	17,975	85,814	13,254	2,154	69,629	777	85,811

#### *Imperial Yeomanry.*

The Imperial Yeomanry on the 1st October, 1905, was 2,165 under Establishment. The number of recruits taken during the past 12 months amounts to 4,060, as compared with 5,547 for the preceding year. In December last the period of re-engagement in the Imperial Yeomanry was altered to one year instead of three, Commanding Officers of Imperial Yeomanry being practically unanimous in desiring this change.

The subjoined table shows the increase and decrease in the Imperial Yeomanry during the past twelve months of the year ended 30th September, 1905:—

Strength on 1st October, 1904	...	...	...	...	...	25,502
						Totals.
INCREASE—						
Recruits joined	...	...	...	...	...	4,060
Re-enlisted	...	...	...	...	...	14
Joined from desertion	...	...	...	...	...	3
Other causes	...	...	...	...	...	4
Total increase	...	...	...	...	...	4,081
DECREASE—						
Died	...	...	...	...	...	62
Discharged	{ On termination of engagement					4,100
	{ As invalids					77
	{ Recruits rejected after attestation					35
	{ By purchase					1,045
	{ On conviction of felony					6
Deserters struck off	{ For misconduct other than felony					31
	{ Other causes					57
Deserters struck off	...	...	...	...	...	336
Joined...	{ Regular Army					180
	{ Royal Navy or Royal Marines					24
Other causes	...	...	...	...	...	43
Total decrease	...	...	...	...	...	5,996
Net decrease	...	...	...	...	...	1,915
Strength on 1st October, 1905	...	...	...	...	...	23,587

## IV.—CIVIL EMPLOYMENT.

The question of civil employment for Army Reserve men and discharged soldiers is of supreme importance to recruiting. Once intending recruits can rest assured that, if their conduct has been satisfactory, they have a reasonable prospect of obtaining employment on leaving the Colours, it is fair to assume that a better class of recruit will be gradually attracted to the Service. It is essential that soldiers on joining should fully recognise that good conduct with the Colours is the main factor of their obtaining civil employment on passing to the Reserve or on discharge. Instructions have been given that even in the first fortnight of the recruits' stay at the dépôt, lectures are to be delivered to them, and the fact that their prospects of civil employment in after life depend entirely on their conduct while in the Army is to be impressed upon them. They are further informed that no man can be registered for employment who is not discharged with a good character, and that preference is given to such as have exemplary or very good characters, while for police or post office employment, an additional certificate of absolute sobriety is essential. Soldiers who are given furlough prior to discharge or transfer to the Reserve are now given a temporary certificate of character to assist them in obtaining employment after discharge, and this alteration of the Regulations will, it is hoped, be of material assistance. Towards the end of 1904 a circular letter was sent to General Officers Commanding, bringing to their notice the slackness of trade then obtaining throughout the United Kingdom. They were directed to instruct Commanding Officers to urge such men as were returning home during the trooping season to endeavour, while still abroad, to obtain promise of employment on arrival home by com-



municating with their friends and former employers. The circular further stated that men should not refuse work because the wages offered were not what they expected, or such as they considered they ought to obtain, but should be made to realise the importance of obtaining employment as soon as possible. A further circular was issued last summer directing that officers in charge of civil employment should make strenuous efforts to place as many ex-soldiers in civil situations as possible before the arrival of the winter months. Officers in charge of Records were directed to maintain a central agency for the district, so that officers in charge of local registers could communicate therewith in order to fill vacancies offered by employers of labour when there was no suitable local candidate forthcoming, and were reminded of their responsibility for the work of civil employment within their areas. The Civil Employment Pamphlet, which shows the various classes of employment open to ex-soldiers and the mode of applying for the same, together with a list of the agencies for assisting ex-soldiers in obtaining employment, has been revised during the year, and will shortly be ready for issue. It is intended that a copy of this pamphlet shall be given to every man on leaving the Colours, thus enabling him to see for himself what employment is open to him.

*General Remarks as to Civil Employment.*

The following table records the number who left the Colours with characters entitling them to registration for civil employment. The actual number for whom employment was found by means of official registers, employment societies, and departments under the War Office, is shown below.

It will be seen that 31,321 men returned to civil life during the year with satisfactory characters, and it has been ascertained from returns that 25,362 ex-soldiers have either been provided with employment or have had situations to go to:—

Number discharged or transferred to the Reserve with	{	"Exemplary" characters	...	...	...	2,451
		"Very good" characters	...	...	...	15,785
		"Good" characters	...	...	...	13,085
		Total	...	...	...	31,321
Number of men for whom employment has been found	{	War Office Register (messengers, etc.)	...	...	...	71
		Regimental and Recruiting Registers (affiliated to National Association)	...	...	...	5,759
		National Association (London office only)	...	...	...	1,680
		<sup>1</sup> National Association (Branches)	...	...	...	1,286
		Soldiers' and Sailors' Help Society (London office only)	...	...	...	724
		Army and Navy Pensioners' Employment Society	...	...	...	787
		Guards' Employment Society	...	...	...	209
		Departments under the War Office.	Army Clothing Department	...	...	4
			Works and Fortifications Department	...	...	8
			Ordnance Factories	...	...	251
			Barrack Wardens, Barrack Labourers...	...	...	425
			Army Ordnance Department	...	...	362
			Clerks in War Office	...	...	8
			Clerks under Army Accounts Department	...	...	24
			Men who are known to have themselves obtained employment...	...	...	13,764
		General Total	...	...	...	25,362

<sup>1</sup> Temporary employment has been found for 1,329 in addition to the above figures

## CONCLUDING REMARKS.

As already pointed out, there has been a material diminution in the number of recruits obtained during the past year compared with the preceding year.

For all arms the numbers are :—

In 1904-5... 35,351.                      In 1903-4... 41,279.

For Infantry of the Line :—

In 1904-5... 22,170.                      In 1903-4... 29,742.

The recruiting in 1903-4 was the highest ever attained except during the war; but the extent to which recruiting was closed in the other arms in 1903-4 favourably affected the number of Infantry recruits obtained in that year, as the recruit had but little choice. It may be observed that the results cannot be considered apart from the conditions obtaining at the time, such as requirements on enlistment, terms of service, etc. With regard to the former, the medical inspection has been more stringent, and the ratio of medical rejections has proportionately increased. This is due to the policy which has been adopted of ensuring a higher standard of physical fitness, a policy which, although it has undoubtedly in the past year decreased the number of men admitted into the ranks, should reduce wastage in the future.

The depletion of the ranks of the Infantry during the year has been abnormal. This is due to three causes :—

1. The passing to the Reserve of the three years' men, which commenced upon the 1st April, 1905, that term of enlistment having been introduced on 1st April, 1902.
2. The expiration of the term of service of those men who had received bounties to extend their service during the war.
3. The permission given to men enlisted for three years, with upwards of two years' service, to pass prematurely to the Reserve. This step was taken at the commencement of the year to reduce the numbers within the Establishment, and thereby enable recruits to be taken for nine years in their place.

This depletion of the serving ranks means an increase to the Reserve. It will extend over some period, and cannot immediately be overcome by recruiting. Fluctuations in establishment and terms of service necessitate fluctuations in recruiting. These are to be deprecated. If a continuity of policy and of administration is maintained, great advantage will ultimately result. In such conditions the draft requirements of each year would be equalised, and a similar number of recruits would be annually required to maintain the Establishment. An undue accession of recruits in a particular year results in an undue depletion in the year in which their Colour service expires. It makes excessive demands on recruiting in such a year, with probably a detrimental closing of recruiting when the numbers are attained. It does not find the drafts in the required year—that in which the depletion occurs, and it is detrimental to regimental efficiency. The general result in the past year is, that, as regards Infantry of the Line, deducting boys, about 21,270 men for 9 years' service have been obtained. This number is about the average required to maintain the Establishment on a 9 years' system, when that system is in normal working order; but, as stated, this number will not

find the drafts during the period of depletion now in process, nor will it provide that sufficient number of old soldiers in the home battalion which is essential to its efficiency. The remedy for the present condition is to be found in taking steps to keep men in the ranks, and so diminish the wastage; and it is hoped that a more consistent policy will be adopted in regard to terms of service in the Infantry of the Line. There exist four different periods for which men have been enlisted for Infantry, and are now serving, viz., 2, 3, 7, and 9 years. No men are now enlisted for this branch except for the latter period. The want of elasticity in recruiting has been commented on in previous reports. When mounted corps are fully opened, recruiting for Infantry of the Line suffers, and the numbers of efficient recruits that can be obtained are not easily augmented above a certain limit. It is difficult to draw any definite conclusion at present as to whether the introduction of the nine years' term has been a deterrent to recruiting. In districts where recruiting has fallen off, the longer term is advanced as a reason; on the other hand, from personal visits to the dépôts and from some reports, the longer term does not appear to be unpopular. The pay has been so largely increased of recent years that there is no doubt that it compares favourably with that of the unskilled labourer in civil life. It is therefore of first importance that the present advantages of pay in the Army should be widely known.

The policy of substituting a system of advertising for that of recruiters has been carefully considered, and in many districts there is a tendency to move in this direction. The general opinion is that advertisement is an excellent aid to the recruiter, but cannot be substituted for him. The best advertisement for recruiting is the contented, well-behaved soldier, who, by example, induces his friends to enlist.

The appointment of the District Medical Inspector of Recruits is perhaps the most important change which has taken place during the past year. By constant visits at uncertain intervals to recruiting centres this officer is enabled to secure a uniformity of system of medical inspection which has hitherto been lacking. He supervises the work of both Army and civilian examiners, and sees that the right class of recruit is passed into the Service. These appointments should eventually prevent what has happened so often in the past, viz., a recruit being enlisted in one recruiting area and being discharged as medically unfit by other medical officers during his recruit drill at the dépôt. The work of providing civil employment has received careful attention. There is no one connected with the recruiting service who fails to realise how important a factor the provision of work on transfer to the Reserve, or on discharge, is to successful recruiting. If the present lengthened term of service of 9 years with the Colours is to remain in force for the Infantry of the Line, it will be more than ever necessary to face the important problem of civil employment, for the longer term of enlistment increases the age at which the ex-soldier has to compete for employment—this is a serious drawback. The moment trade slackens, numbers of applications are received from Army pensioners seeking employment. It is the older men whom the reduction in labour first affects, probably owing to their lower standard of efficiency. It is important that employment on a larger scale, especially in Government departments, shall, if possible, be provided. Upon the other hand, it is incumbent on the military authorities to make every effort to fit the soldier whilst serving for civil employment when he leaves the Colours, and to ensure that he is recommended for the class of employment for which he is most fitted. There



are many callings—such as porters, messengers, policemen, caretakers, etc.—in which military training increases rather than diminishes the value of the ex-soldier, and this value would be increased if the aptitude necessary for the efficient discharge of the duties of each class of employment were developed while in the ranks. Qualifications, such as a knowledge of simple accounts, accuracy of observation, practice in delivering messages, taking down instructions, etc., lie within the sphere of military duty, while higher attainments, such as shorthand, telegraphy, clerk's duties, etc., could be mastered by many, and for this purpose the excellent technical institutes existing in some garrison towns might be more fully utilised. This important subject is, however, being fully considered by the Army Council.

Reports received from the districts comment upon certain influences which are adverse to recruiting. In Ireland, articles in the Press have been published and placards have been posted up to deter the intending recruits from enlisting, and in England, publications and leaflets have been issued by societies averse to military service—13 leaflets published by one society were received in this office.

The public criticism to which the Army is so constantly subjected is stated to be prejudicial to recruiting. Such criticism, however well intentioned or well informed, no doubt is a deterrent, especially to the better class of recruit.

In conclusion, it may be stated that the class of recruit now obtained shows a tendency to improve—his conduct, character, and education is satisfactory. The number of recruits who can be obtained of the required stamp is limited, and not easily augmented. With a consistent military policy, some continuity of administration as regards terms of service, and an organisation which prevents the incidents of military service—and especially foreign service—from pressing too hardly on the soldier, it should be possible to prove to the civilian that a good career is open to well-conducted young men who elect to enter the service of His Majesty.

FRANCE.—*M. Klotz's Report on the War Budget for 1906: Lessons of the Russo-Japanese War.*—A *Précis* of the draft of the general budget for 1906 appeared in the November JOURNAL for 1905, p. 1325, and its details are substantially the same as those which appear in M. Klotz's Report. It may, however, be of interest to give the French military official opinion of the lessons to be derived from the recent Russo-Japanese War, which is contained in that report:—

The scrutiny and study of the information gathered by the French Mission, says M. Klotz, are not yet sufficiently advanced to be able at once to draw from them the lessons they contain, and to formulate conclusions regarding the organisation of Armies, of the command, and of tactical methods. All that it is possible to do at present is to make some special observations on the Japanese Army, with regard, on the one hand, to its moral education, and on the other, of the employment of certain *matériel* during the campaign.

#### a. OBSERVATIONS ON THE MORAL EDUCATION OF THE JAPANESE SOLDIER.

The successes of the Japanese are chiefly due to the moral force of their soldiers. The proof of this has been constantly demonstrated in the course of the operations by the spirit of offensive of commanders and men, by the steadiness with which the latter have suffered losses (frequently

considerable), and by their endurance in supporting cruel sufferings, resulting from the conditions of the campaign. It is, therefore, of interest to investigate by what means the moral force of this people is developed. This result seems to be due, at the same time, to the racial qualities of the Japanese and to the special education he receives at school.

Endowed with an extreme pride, with an almost unhealthy vanity, and a keen intelligence, the Japanese are, in addition, of a disciplined nature. They regard the bearing of arms as an honour. It is these natural gifts that Japan has endeavoured to turn to account by giving the people a strong patriotic education. This duty lies, above all, with the school-master; the first idea that the latter must endeavour to inculcate in the children is absolute devotion to their country. At all patriotic or military *fêtes*, at all funeral ceremonies held in honour of soldiers who have died for their country, places are reserved for school children. No occasion is neglected to dazzle the youthful imagination of children by means of military spectacles. They are taught that Japan is the privileged nation, the centre of the universe; that she has received the mission to dominate and regenerate the world. It is thus that, gradually, their patriotism is formed and exalted, and that they are prepared for all sacrifices. The recruit thus arrives at his regiment formed morally, and having in addition received a sound physical training. The task of the officers-instructors thus finds itself considerably simplified. The relations between them and their men are characterised by a benevolent familiarity on the part of the chief, respectful on the part of the subordinate, which makes discipline easy. All these factors combined have produced a truly national Army, profoundly impregnated with a spirit of patriotism and of self-abnegation.

#### b. OBSERVATIONS ON THE EMPLOYMENT OF CERTAIN MATERIEL.

If the testimony of the events of the recent war unanimously attribute the successes of the Japanese Armies to moral causes, they show, on the other hand, no serious innovation as regards *matériel*. It should not, however, be lost sight of that the Japanese Army was organised, armed, and trained on the model of European Armies, and especially on that of the German. Its *matériel* shows no special features, and the observations to which its employment has given rise merely confirm opinions already public. It is, nevertheless, not without interest to pass rapidly the following points in review :—

*Infantry Ammunition.* — The ammunition supply of the Japanese infantry soldier on the battle-field was as follows :—

	Rounds.
On the man, in the cartridge pouches - - -	120
„ „ „ valise - - -	30
On the battalion draught horses, per man - -	60
With the ammunition sections - - -	60
Total - - -	270

With the 6·5-mm. magazine rifle with which he is armed this supply was altogether inadequate. It was necessary, on the one hand, to increase the number to 300 and 350 cartridges per man; and on the other hand, to constitute an advanced park *échelon* on wheels carrying 150 cartridges per man for refitting the ammunition sections.

*Infantryman's Load.*—The Japanese infantryman is small but strong. Accustomed to carry loads, it is possible to give him a considerable weight,

amounting on an average to 30 kilograms (about 66 lbs.). Although there was no occasion during the war to make long marches, the carrying of the valise was recognised as inconvenient, and during certain operations the men carried "fighting packs," consisting of a piece of stuff worn in banderole, and containing some change of clothing, rations, and cartridges.

*Machine Guns.*—The Japanese proved the deadly effect of machine guns by the terrible losses they sustained, especially before Liao-Yang; therefore, during the autumn of 1904, they provided their Army with Hotchkiss machine guns, mounted on wheeled gun-carriages and provided with shields; they had with the II<sup>nd</sup> Army on an average a group of three of these weapons per regiment. It was never possible to employ these machine guns in the offensive, as their gun-carriages and shields rendered them too visible; but they were of great use in the occupation of *points d'appui*, especially to check the enemy's counter-attacks.

*Heavy Artillery.*—Heavy Artillery was used in open country by the Japanese. In addition to 95-mm. howitzers, mounted on revolving platforms or carried on drays, which did not give good results, they made use of 120-mm. and 150-mm. Krupp howitzers; also long 105-mm. guns and 150-mm. howitzers taken from the Russians, and even 280-mm. coast mortars. At the battle of Mukden, in particular, the II<sup>nd</sup> Army had a brigade of 12 heavy batteries.

*Telegraphic Matériel.*—The large employment of electric communication during the entire duration of a battle by the Japanese command was one of the features of the campaign. The commander of an Army was always telegraphically connected with the Grand Headquarters, the neighbouring Armies, and each of the divisions under his command. Each divisional general, on his side, was also linked with neighbouring divisions and frequently with his two brigades. Very portable apparatus, both telegraphic and telephonic, rendered installation exceedingly rapid.

*Company Stretcher Bearers.*—The special stretcher bearer companies—2 per division—charged with the removal of the wounded from the battle-field, rendered the greatest service.

*Shields.*—As the Japanese engineers suffered terrible losses whilst endeavouring to destroy obstacles under the enemy's fire, portable steel shields were issued for the protection of the workers. The destruction of wire entanglement necessitated the use of special scissors; those of the Japanese engineers not being good enough, were replaced by a better type.

*Mobile Kitchens.*—The services rendered by the mobile kitchens in providing hot meals to men even on the battle-field were greatly appreciated.

The portable tools and the clothing of the Japanese troops mentioned by M. Klotz in his Report have already been dealt with at greater length in the JOURNAL. (See JOURNALS for November, 1905, p. 1328, and February, 1906, p. 248.)—*Rapport du Budget Général de l'Exercice 1906.*

*Infantry Portable Tools.*—The lessons of the Russo-Japanese War have already commenced to bear fruit. The facts of that war abundantly proved that if the offensive alone permits of decisive results, it is not the less true that the defensive is a necessity that troops must frequently know how to assume on one part at least of the field of battle, and that the employment of hasty fortifications will be often made use of at such points as the chief command has determined to hold at all cost with more or less weak effectives. As a result of the war, and even during the campaign in Manchuria, a flood of ideas was not slow in



making its appearance in Europe with a view to an increase of portable tools to be issued to infantry for use on the battle-field.

The Japanese infantry was more abundantly supplied with tools of this nature than the Russian, whilst the greater portion of European infantry is even less well provided in this respect than either the Russians or Japanese. As regards the French infantry, its complement of portable tools had been considerably reduced since 1897, and numerous military writers have recently energetically demanded an increase in the supply of portable tools for the French infantry, basing their demand on the frequent use made of fortifications on the battle-field in the actions fought in the Far East. In spite, too, of the inconvenience resulting from this measure in the overloading of the foot soldier, from whom, on the other hand, attempts are being made to lighten his load, the Infantry Technical Committee has recognised the necessity for supplying the French infantry with an increased number of portable tools, and the War Minister, endorsing this opinion by a decision taken on the 11th January last, has fixed on a new basis for the supply of portable tools to infantry companies.

According to the dispositions hitherto in force, the supply of these tools to a French infantry company was 8 spade-shovels, 4 pickaxes, 3 hand-axes, 13 field-hatchets, 4 poll-picks, 1 jointed saw, and 1 pair of hand wire-rippers or shears. In all, 34 portable tools. According to the new dispositions, the supply will consist of 112 spade-shovels, or 7 per squad; 32 pickaxes, or 2 per squad; 16 billhooks; 12 hand hatchets; 4 portable axes; 1 jointed saw; and 4 pairs of hand wire-nippers or shears; altogether, 181 tools per company.

With the large number of spaces enclosed by wire which are nowadays met with in the greater part of the country, the hand wire-nippers are indispensable to infantry moving across country. Each section will in future have its own. As regards billhooks, this sort of tool is not less indispensable to an infantryman making his way through brushwood, in preparing abatis, in making pickets, etc., and for bivouac purposes.—*La France Militaire*.

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RUSSIA.—*Re-engaged Non-commissioned Officers*.—The *Ruskii Invalid* has recently published an order of the 13th December last dealing with re-engaged non-commissioned officers which will, in this regard, completely change the situation of this important portion of the subordinate cadres.

In future there will be in every company, squadron, or battery 3 re-engaged non-commissioned officers enjoying special privileges. Their pay, which varied from 60 to 84 roubles a year, is increased to 180 roubles on the first re-engagement. These non-commissioned officers will occupy the position of company sergeant-major or quartermaster-sergeant and two positions as non-commissioned officers in charge of sections or platoons. In the event of there being an insufficient number of re-engagements, the vacancies may only be temporarily filled by men who are only going through the normal period of service.

On the completion of a year's re-engagement the non-commissioned officers will go through special courses, organised in each army corps or in certain of them, according to the orders of the divisional general; at the conclusion of these courses they will be examined. Those who pass successfully will be promoted *podraportchik*, or sub-ensigns,<sup>1</sup> by the divisional generals. They will then be given the choice of continuing to serve as re-engaged men or being drafted into the Reserve, with the

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<sup>1</sup> A rank very similar to that of adjutant in the French Army.

right, on mobilisation, of being called out as *zaouriad-paportchik*, or ensign-substitutes. Those who are not fit to be promoted sub-ensigns will be compulsorily drafted into the Reserve. Every re-engaged non-commissioned officer, whether promoted sub-ensign or not, will receive a bounty of 150 roubles paid in a lump for their second year's re-engagement. Sub-ensigns retained in the Service can only carry out the duties of non-commissioned officers (sergeant-majors or section commanders). During their 3 first years in that rank they will receive 240 roubles as pay, and 300 roubles a year for the following years.

At the end of 10 years of re-engagement, 8 of which as sub-ensigns, non-commissioned officers desirous of leaving the Service will receive a bounty of 1,000 roubles (10 per 190 roubles being kept back for pension fund), and will be drafted into the Reserve or the Militia. Those wishing to continue to serve will be permitted to do so. At the termination of 13 years in the rank of sub-ensign, and consequently after 15 years' re-engaged service, these non-commissioned officers will be compulsorily retired with a pension of 96 roubles a year and drafted into the Reserve or Militia until they have passed the legal age for service.

Sub-ensigns will wear the uniform of the rank and file of their corps, with the following modifications:—

1. Chevrons on the sleeve.
2. They may be awarded medals with the ribbon of St. Anne.
3. They will wear an officer's sword-knot and sword.
4. They will wear the same double shoulder-strap as officers, and will have the same numerals and badges.

They will receive double allowances, either in money or in kind, for clothing, messing, and fuel and light. The acting sergeant-majors will be entitled to a room to themselves, section commanders to a room between two; married non-commissioned officers, if not given quarters, will receive half the lodging allowance of subaltern officers.

As regards punishments which may be inflicted upon them, sub-ensigns will be treated as officers and will be addressed with the same courtesy.—*La France Militaire*.

*General Order relative to the stay of the Russian Armies in Manchuria.*  
—The *Ruskii Invalid* publishes the following General Order dated Godziadan, 24th September, 1905, addressed by the Commander-in-Chief, General Linevitch, to the Armies under his command:—

On account of the conclusion of the armistice, I order that the Armies shall adopt the following measures:

1. All troops will remain on their present positions; the advanced posts will do the same.
2. Immediately construct shelters; these shelters to be of the shape of the field-tent.
3. In preparation for the arrival of the cold, at once distribute cloth clothing to all the men (tunics, trousers, and caps), which will be worn after sunset and on cold days; on other days the summer clothing will be worn.
4. The winter clothing will be taken into wear on the 9th October. From that date the summer clothing will cease to be worn, and will be given away to the men, with the exception of the caps, which will be kept in the company's stores.
5. I order the Quartermaster-General to issue the necessary number of vests to all corps.

6. After ratification of the Treaty, that is to say, about the 23rd October, all the Armies will move towards the railway on the line which leaves Kwan-chen-si and branches off towards the north; they will occupy quarters in the Chinese villages which will be pointed out to them. In this zone, however, the number of Chinese villages is insufficient for the purpose, and I therefore order the construction, for corps which cannot be billeted, of heated shelters in which they can pass the winter. As in the month of October, in which this move will take place, it will be cold, immediately on receipt of the present order a commencement will be made with the construction of shelters on the new emplacements. The ground may be excavated under the shelters, but not to a greater depth than 15 inches.

7. Without waiting for the date fixed for the occupation of the new sites, kitchens and bakeries must also be constructed on them.

8. On account of the entire cessation of military operations, I order training of the troops to be carried out, so as to occupy them, in especial the following manœuvre with their complete effectives: Company and battalion instruction under regimental commanders, regimental and brigade drills under brigade and division commanders, division and army corps manœuvres under the supervision of the chief command. During these exercises military marches, concluding with manœuvres, will also be carried out.

9. In addition, aiming drill and musketry will be practised, especially for young soldiers; shooting meetings with prizes must also be organised for the troops.

10. Every man, without exception, must take part in all the trainings.

11. Moral lectures must be organised in all regiments.

12. The maintenance of order within all corps must be most strictly enforced, and the men must be compelled to conduct themselves in all circumstances with correctness and affability towards the Chinese population.

13. Games must be organised for the men in all corps during the hours when they are free from duty.

14. In a general way I invite commanders to do their utmost to maintain morality, discipline, and health amongst the troops.

15. I beg Army commanders to give detailed instructions on the above regulation to all troops under their command, and to see that these regulations are carried out.—*Revue Militaire des Armées Étrangères*.

SWITZERLAND.—*Military Budget for 1906*.—The total net expenditure amounts to 32,775,509 francs, which shows an increase of 1,754,426 francs over those for 1905, which amounted to 31,021,083 francs. The proposed increase in expenditure for 1906 is apparently especially due to: 1. The triennial increase of salaries; 2. Increased recruiting for certain branches of the Service, amongst others, of the artillery, consequent on the adoption of the Q.F. gun; 3. Increase of instruction department, especially with regard to the artillery; 4. An increased purchase of cavalry horses; 5. An increase in the subsidies to shooting and military societies, etc.

Amongst the schemes in hand, the principal ones are those regarding the training of officers. In the artillery it is intended to develop the initiative of battery commanders. The experiences of the 1st and II<sup>nd</sup> Army Corps last year apparently demonstrated that the introductory



courses were not sufficient to inculcate these officers with the safety desirable in the conduct of fire of Q.F. batteries. All battery commanders must be successively called up afresh for the gunnery course No. 2; it should even be possible, says the *Revue Militaire Suisse*, to call them up more than once. The effectives taking part in these courses will be increased. A fourth central school is provided for 36 lieut.-colonels. The last one was formed in 1903. In the Engineers, greater pains will be taken in instruction in equitation.

*Manœuvres in 1906.*—The IIIrd and IVth Army Corps will be called out this year for drill and manœuvres. The IVth Army Corps will carry out grand manœuvres; it will be mobilised on the 27th August and disbanded on the 13th September. The troops of the IIIrd Army Corps will be regimentally exercised, and will furnish two brigades—the 11th and 13th—for 3 days to the so-called “manœuvre division” against the IVth Army Corps, one brigade—the 12th—to the exercises against the cavalry, and probably one brigade—the 14th—for exercises of fortified field positions on the Linth. In addition to the two brigades mentioned above, the manœuvre division will consist of the 47th and 87th Battalions of the Gothard garrison, an artillery regiment of reduced effective and old *matériel*, the 3rd and 4th Mountain Batteries, the 1st and 2nd Gothard Fortress Machine Gun Companies, and a battalion of Engineers.

From this composition of the manœuvre division it is anticipated that the army corps exercises will take place in a mountainous district. In the meantime the preparatory drills of the IVth Army Corps have been fixed to take place in the district comprising Andelfingen, Schaffhausen, Winterthur, Frauenfeld, Wil, and Gossau. The mountains nearest to this district are those of Toggenberg and Appenzell.

The exercises of cavalry against infantry, which proved so instructive last year, are to be renewed this year. Exercises of the same nature, in which about the same numbers will take part, will be held from the 23rd to the 25th September. As before mentioned, the infantry will be that of the 12th Brigade. The cavalry will consist of the 3rd Brigade and a brigade of Guides.

Finally, the position manœuvres will take place from the 26th to the 28th September.

*Army Reform.*—On the 1st January, 1906, the strength of the Swiss Army, including Élite and Landwehr, amounted altogether to 232,034 men, thus distributed amongst the three arms of the Service:—

	Officers.	N.C.O.	Men.	Total.
Infantry ... ..	4,839	22,340	148,350	175,519
Cavalry ... ..	349	1,437	7,545	9,331
Artillery ... ..	1,226	3,555	26,265	31,046

The Engineers consisted of 9,962, the Medical troops of 3,761, and the Administration troops, 2,291 men, exclusive of officers.

On the 17th March last a scheme for the reorganisation of the Swiss forces was introduced into the Federal Chamber. The first project for

such reorganisation appeared in July, 1904, and encountered a good deal of opposition. The present scheme has the general approval of the whole of the Defence Committee.

Should this scheme of military reorganisation come into force, officers and men will have to undergo a longer period of service in early life than has been the case hitherto. The first training period (the Recruit School) for the cavalry will last for 90 days, and for all other branches of the Service for 70 days. Men belonging to the Elite (from 20 to 32 years of age) will have to go through an annual "repetition course" in the cavalry for 88, and in other branches of the Service for 77 days. The Landwehr (men of from 32 to 42 years of age) will be called out once or twice for a drill period of 11 days. The new scheme raises considerably the training period for the cadres, and especially for the officers. Liability for service extends from 20 to 48 years of age; for officers, however, it is up to the age of 52 (at present it is up to 55). The Army consists of Élite, Landwehr, and Landsturm, and includes: Command Staffs, the General Staff, the branches of the Service, viz., infantry, cavalry, artillery, engineers, fortress troops, medical department, veterinary department, administration troops, and transport; other branches, such as: Military law, military chaplains, field post, field telegraphy, communication and railway troops, territorial service, staff clerks, officers' orderlies, motor service, Army police, etc. Alpine troops will be formed from men coming from mountainous neighbourhoods. The infantry battalion consists of from 3 to 6 companies, the regiment of from 2 to 4 battalions, the brigade of from 2 to 3 regiments. The cavalry unit consists of from 2 to 3 squadrons; 2 to 3 units and a mounted machine gun company make up a regiment; 2 to 3 regiments form a brigade. The artillery unit consists of from 2 to 4 batteries, the regiments of from 2 to 3 units. The Cantons still only furnish infantry companies and battalions (fusiliers) as well as dragoon squadrons, and these, in addition, nominate the officers for the units and fusilier battalions furnished by them. The authority of the General, who, in the event of mobilisation, is selected for "active service" by Federal Council, is given a far wider scope.—*Précis from Revue Militaire Suisse and Danzer's Armee Zeitung.*

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## CORRESPONDENCE.

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"THE SECOND AFGHAN WAR." BY COLONEL H. B. HANNA.

A REPLY.

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To the Editor of the JOURNAL OF THE ROYAL UNITED SERVICE INSTITUTION.

SIR,—In the January number of your JOURNAL, Captain H. M. Johnstone, Military Lecturer to Edinburgh University, is good enough to inform his readers that as regards his account of the attack on the Peiwar Kotal, "Colonel Hanna has most of the facts, and that his description of the topography of the Peiwar Kotal and its surroundings is decently clear."

I fear I cannot compliment Captain Johnstone on his facts or on the map appended to his letter, in view of its errors and omissions, for it shows Turrai as standing in the middle of an open plain, when it is really

situated on the slope of the hill of which One Gun Spur is a part; it places the "Devil's Punch Bowl" about a third of a mile from the Peiwar Kotal, instead of a quarter of a mile north west of Turrai; it makes the spur reconnoitred by Colonel Gordon stop short of Turrai, instead of running down to Gubazan; and it leaves blank the space between Roberts's second turning movement and the enemy's line of retreat from the Peiwar Kotal, thus giving to it the appearance of ground practicable for cavalry and artillery, whilst in reality it is impassable to troops, and the British column, in its attempt to cut the Afghan line of retreat, had to creep painfully down the bed of a frozen mountain stream.

The first point to note in Captain Johnstone's letter is the writer's evident surprise at "Colonel Hanna sometimes stating what, in his opinion, ought to have been done," though, as all military criticism is based on the assumption that the commander criticised had a choice between two or more courses, a critic falls short of his duty if he forbears to indicate which of them he would have had him adopt.

That in the case of the Peiwar Kotal I "propose action, or rather inaction, like the kind that led to Maiwand," I deny, and I think Captain Johnstone would find it a difficult matter to work out the details of this comparison, though, thus loosely made, it serves the purpose of prejudicing the careless reader against my real views and conclusions.

It is to the account of the events on and around the Peiwar Mountain, comprised between the afternoon of the 28th November and the evening of the 2nd December, 1878, that Captain Johnstone confines his attack on my history, and he begins by denouncing as "criticism run mad" my observation that "it is contrary to all military precedent for a commander to make a reconnaissance with the whole of his force, including guns and elephants, and no general would direct his subordinates at the end of a 21 miles' march to attack with hungry and exhausted men an unknown enemy in a position of extraordinary strength, except in the hope of snatching a success." Having thus challenged my criticisms as a whole, he goes on to defend Roberts's tactics on the 28th November by reasoning which shows him to believe that Cobbe and Thelwall were leading the advanced guards of their columns, the main body of each remaining behind under General Roberts's personal command. It is just because this was not the case, just because the whole, and not a part, of Roberts's force was involved in movements begun at a late hour with tired men, that I decline to give to those movements the name of a reconnaissance in force, and condemn them as a risky and ill-considered attempt to snatch a success.

As the question of the relative claim to credence of Captain Johnstone and myself is involved in our respective views of this episode, I will here reproduce my account of it with such slight variations as its removal from the context demands—an account drawn with scrupulous care from the narrations of Major Colquhoun, Sir Hugh Gough, and Lord Roberts:—

"Roberts, on arriving at Habib Killa, deceived anew by fresh reports that the Afghans were retreating in disorder, determined to push forward all his infantry and artillery in the hope of capturing the guns which he believed to be within his grasp. Accordingly as soon as the left column, consisting of two guns No. 1 Mountain Battery, 5th Punjab Infantry, 23rd Pioneers, 29th Punjab Infantry, and 8th King's, had closed up, he directed Cobbe to turn the spur that overlooks the ascent to the Peiwar Kotal, and at the same time despatched orders to Thelwall to support Cobbe's movement by marching on Turrai by the direct road



which traverses the village of Peiwar with his column, consisting of four guns F.A., Royal Horse Artillery on elephants, two guns No. 1 Mountain Battery, 5th Gurkhas, 72nd Highlanders, and 2nd Punjab Infantry. In the thickets of prickly oak, through which the 1st Brigade had to struggle, it was easy to miss the direction, and thus it happened that though Cobbe, with the 5th and 29th Punjab Infantry and two guns, carried out his instructions, the 8th King's and 23rd Pioneers went astray."

Captain Johnstone asks: "Would I have had General Roberts halt his main body at Habib Killa or at Peiwar?" I answer, unhesitatingly: At the last-named village—a very important strategic point, as it commands the road to the Spin Gawai Kotal, as well as that to the Peiwar Kotal. From thence it would have seemed to be wiser if he had pushed forward his cavalry, supported by a couple of battalions of infantry and the mountain guns, the men unencumbered by followers or baggage animals, to ascertain whether there was any truth in the reports furnished to him by his spies. Captain Johnstone reproves me for quoting Napoleon too freely; but was ever the truth of that great commander's dictum, that "in war, spies and their information count for nothing; to trust to them is to risk men's lives," better illustrated than by this attack on the Peiwar Mountain, in which Captain Johnstone sees nothing to blame?

A curious example of my critic's blindness to facts that literally stare him in the face is contained in the following passage:—

"The camp chosen for that night *was* in a dangerous spot, but the force was certainly by now exhausted and hungry, and to retreat immediately after an adverse skirmish from the presence of an Afghan foe in a country of wild ravines, inhabited by wilder tribes who were simply waiting to see which side would win, would that be wise? Safety from being overlooked could only have been attained by retreating several miles towards Kuram; the retreating troops would have met and would have had to turn back a long line of scratch transport. In the gathering darkness the confusion would have been dreadful."

No one reading these lines would imagine that, wise or unwise, the Kuram Field Force, though exhausted and hungry, *did* retreat immediately after an adverse skirmish; that the retreating troops *did* meet and turn back a long line of transport—some 800 camels and 1,200 mules—and that in the gathering darkness the confusion *was* dreadful. (See "History of the Second Afghan War," Vol. II., pp. 65 and 66.)

Criticising a foot-note taken from Major Colquhoun's "With the Kuram Field Force," in which that officer gives it as his opinion, that if Roberts had remained at Turrai the Afghans, "knowing the range, might have commenced shelling the camp after dark with all their mountain guns," Captain Johnstone remarks that there is nothing to show that there was more than one gun within range of Turrai, and asks indignantly: "Have we no Gurkhas who could be trusted to steal up in the dark to deal with that gun, whose flashes would be plainly visible?" It is not impossible to move mountain guns on moonlight nights, even on steep hill-sides, and there are limits to the wonders which Gurkhas can perform; yet I welcome the question as proof that, on occasion, Captain Johnstone can himself find fault with a British general's tactics, and almost regret that in this particular instance the British general was right and his critic wrong—the position at Turrai was untenable, and there was nothing to be done but to evacuate it.

Passing from my account of the abortive attack of the 28th November to my remarks on the reconnaissance of the Peiwar Mountain, Captain Johnstone asks: "Is there any reason why the commander should accept

the correctness of the suppositions of Colonel Gordon rather than those of Major Collett?" I answer: Yes; two good reasons: Gordon was a more experienced officer, and his escort consisted of Pathans—hillmen—some of them probably natives of the district, whereas Collett's escort consisted of Sikhs—men of the plains—ignorant of the country. Does Captain Johnstone suppose that British officers do not consult their native officers, and that these, in their turn, do not get all the information they can out of their men?

My critic gives it as his opinion that "a turning movement on the enemy's right would, if successful, have laid open the (*British*) line of retreat much more than a turning movement on his left." Nothing in the map of the theatre of operations supports this assertion, and the route reconnoitred by Gordon possessed the advantage of being three miles shorter than that reconnoitred by Collett; all the same, I have nowhere advocated that the one should have been substituted for the other.

As an example of Captain Johnstone's unfairness to myself, I will instance the following sentences:—

"It is a matter of history how the regiments, with General Roberts at their head, came upon the chasm, and could make no further progress. Colonel Hanna would apparently have had him then march his men back to camp." Who would guess from this remark that after narrating the strange circumstances under which Roberts arrived at the edge of the chasm, I warmly extolled him for bravely resolving to maintain his position at all risks, and that I have nowhere contended that it should have been abandoned?

A little further on Captain Johnstone asks how the extraordinary slackening of the fire against the frontal attack can be accounted for, except on the supposition that the Afghans, seeing Roberts "establish the 2nd Punjab Infantry on his side of the chasm and fall out towards his right with the rest, concluded it was time to go." I answer that if Captain Johnstone will take the trouble to study all the accounts of this episode, he will find that the slackening of the fire took place *before* Roberts established the 2nd Punjab Infantry on his side of the chasm; *before* he began feeling towards his right, and that it was entirely due to what Captain Johnstone himself designates as "a piece of extraordinary and unforeseen luck," namely, the discovery of a spot from which guns could be brought to bear on the Afghan camp, by a regiment which wandered away from the force engaged in making the frontal attack.

Captain Johnstone pours scorn on my suggestion that Roberts should have tried to draw the Afghans from the Peiwar Mountain, and he wants to know where I would have had him "make a stand—in the condemned camping ground at Turrai or by retreat to the Kuram Forts." It is a waste of time to argue with a man who, when his own map shows that the British camp had been shifted to Gubazan, seems to believe that it was still at Turrai; but I have no difficulty in answering his question: The stand should have been made at the village of Peiwar, because there, as already mentioned, Roberts would have commanded the roads leading to both Kotals. That by skilful manœuvring he might have tempted the Afghans to abandon their advantageous position, is proved by the success of the tactics by which three months later Charles Gough drew the Khugianis from an impregnable mountain fastness; but under any circumstances he would not have had to wait long inactive, for scarcity of local supplies and lack of transport must soon have compelled the Afghans either to take the offensive or to retreat.

Governments do not go to war in order that generals may fight battles, but to obtain certain political objects; and the object which Lord Lytton's Government had in view in the Kuram would, as far as one can see, have lost nothing of their value by a delay of a week or two in securing them. The risks run by General Roberts in his haste were enormous—his own estimate of their gravity differs greatly from Captain Johnstone's—and it is not "the very mania of criticism" but a comprehensive view of the military and political situation at the beginning of the war which, in my opinion, hardly seems to have justified such risks being run. To oblige Captain Johnstone I will abstain from quoting Napoleon, but he must allow me to call in Wellington to judge between him and me. This is what, as Major-General Arthur Wellesley, he wrote to Colonel Stevenson on the 12th October, 1803:—

"Do not attack their position, because they (the Mahrattas) always take up such as are confoundedly strong and difficult of access. . . . but when you shall hear that they are on their march to attack you, secure your baggage and move out of your camp. You will find them in the common disorder of march; they will not have time to form, which, being but half disciplined troops, is necessary for them. At all events, you will have the advantage of making the attack on ground which they will not have chosen for the battle; a part of their troops only will be engaged; and it is possible that you will gain an easy victory. Indeed, according to this mode, you might choose the field of battle yourself some days before, and might meet them upon that ground."

I am, Sir,

Yours obediently,

H. B. HANNA, *Colonel*,  
Late Commanding at Delhi.

*Heathmere, Petersfield, February 18th, 1906.*

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### THE PRIVATE SOLDIER'S OUTFIT.

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*To the Editor of the JOURNAL OF THE ROYAL UNITED SERVICE INSTITUTION.*

SIR,—Now that the above is in such a mixed and transitory stage, perhaps a few suggestions will be of interest.

The authorities have gone a long way in the necessary reform of distinguishing between the soldier's working kit and what we may perhaps be allowed to call his walking-out or show kit; but it appears that they have just failed to go far enough. The soldier now has two suits of clothes—his full dress and working kit; similarly his walking-out cap and drab coloured working cap. But he is not complete without his belt, and this is where the authorities appear to have stopped short.

At present some regiments are equipped with a web canvas or buff leather belt, some still retain the old white pipe-clayed belt, others pipe-clay the web belt—a compromise for smartness which will soon render them unserviceable.

The point is, that the soldier has one and the same belt to wear for work or for show. No belt, however well cleaned, can look smarter with a red tunic than the old white pipe-clayed one.



On the other hand, the soldier of to-day is not expected to stand erect when in the firing line; but when practising fire tactics or on the range has to be constantly lying down and crawling about.

Surely it is contrary to human nature to expect a man to learn to take cover well, when all the time he is thinking how long it will take him afterwards to clean his belt for church parade. For practical field work nothing could be more unsuitable than the white pipe-clayed belt. Hence it appears that two belts are desirable—one for work and one for show.

It is generally understood that the old white pipe-clayed belts are to be gradually replaced by brown leather ones. Why not issue at once to all troops the brown leather belts for work, and at the same time retain the white ones for show?

Another question to be noticed is the supply of boots. A soldier is issued with two pairs of exactly similar strong brown marching boots, one of these, according to regulations, is to be dubbed and not blackened and used for parade work generally, the other is to be blacked and polished and kept for wear with full dress, *i.e.*, church parade and walking out.

As is well known to all regimental officers, this system does not answer, and the soldier soon has two pairs of black boots, which have to be either dubbed or polished as required. The argument here is the same as regards the belt question: It is impossible to be really smart in hard-working clothes or boots.

Many are the jokes about the shape of the ammunition boot that have been made at Tommy's expense when walking out in these very serviceable but impossible-to-be-smart-in articles. Why not issue the soldier with two pairs of brown boots as at present, but to be kept brown and regularly greased (he is issued with two brown coats, and are not boots as important to an infantryman as a coat?), and also issue one pair of lighter, well cut, black boots for his show work?

What a much smarter appearance he would have in full dress than at present! Also he would possess two pairs of well-greased, thoroughly serviceable brown boots ready for active service.

The increased expense would be fully compensated for by the saving in wear, as the boots could be made to last longer; also, the brown boots would be far more serviceable. If a soldier has only one pair of working boots he may, as frequently happens when out early in the wet grass, get his boots soaking wet. He has to wear them all day, and can only dry them at night by baking them near a fire. If he had two pairs they could be properly dried and thoroughly greased before being used again. From another point of view we may add that the working man of to-day does not wear on Sunday the boots he has been labouring in all the week. Why should his brother in the Army have to do so?

G.M.E.

# NAVAL AND MILITARY CALENDAR.

MARCH, 1906.

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- 2nd (F.) Official papers on Army Finance in South Africa were issued.
- 5th (M.) H.M.S. "Berwick" arrived at Sheerness from Second Cruiser Squadron.
- " " 18th and 46th Co.'s R.E. left Halifax, N.S., for England in the "Lake Champlain."
- 6th (T.) The Army Estimates were issued.
- 8th (Th.) H.M.S. "Lancaster" arrived at Nore from Mediterranean.
- " " "I" and "L" Batteries R.H.A. } arrived in England from India  
46th, 51st and 64th Batteries R.F.A. } in the "Assaye."
- 9th (F.) The betrothal of H.M. King Alfonso XIII. of Spain and H.R.H. Princess Ena of Battenberg was officially announced.
- 11th (S.) 2nd Bn. Yorkshire Regiment arrived in South Africa from England in the "Soudan."
- 12th (M.) H.M.S. "Berwick" re-commissioned at Chatham for Second Cruiser Squadron.
- " " 1st Bn. Duke of Cornwall's L.I. left South Africa for England in the "Soudan."
- 13th (T.) H.M.S. "Venerable" arrived at Sheerness from Mediterranean.
- 14th (W.) H.M.S. "Bedford" arrived at Sheerness from Second Cruiser Squadron.
- 15th (Th.) 18th and 40th Co.'s R.E. arrived in England from South Africa in the "Lake Champlain."
- 19th (M.) H.M.S. "Wallaroo" arrived at Plymouth from Australia.
- " " T.R.H. the Prince and Princess of Wales left India for England in H.M.S. "Renown."
- 20th (T.) H.M.S. "Lancaster" re-commissioned at Chatham for Third Cruiser Squadron.
- 22nd (Th.) Launch of first-class armoured cruiser "Scharnhorst" from the yard of Blohm and Voss, Hamburg, for German Navy.
- 23rd (F.) H.M.S. "Berwick" left Portsmouth to rejoin Second Cruiser Squadron.
- 24th (Sat.) H.M.S. "Lancaster" left Sheerness for Mediterranean.
- 26th (M.) H.M.S. "Bedford" paid off at Chatham.
- 27th (T.) Launch of third-class cruiser "Almirante Grau" from Messrs. Vickers' Yard, Barrow, for Peruvian Navy.
- " " H.M.S. "Black Prince" commissioned at Chatham for Second Cruiser Squadron.
- 30th (F.) H.M.S. "Venerable" left Sheerness for Mediterranean.

## FOREIGN PERIODICALS.

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### NAVAL

ARGENTINE REPUBLIC.—*Boletín del Centro Naval*. Buenos Aires : January, 1906.—Has not been received.

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AUSTRIA-HUNGARY.—*Mittheilungen aus dem Gebiete des Seewesens*. No. 4. Pola : April, 1906.—“The French Naval Estimates for 1906.” “The Deformation of Projectiles and Armour Plates under the Influence of High Tension and Transverse Vibrations.” “Medium Artillery and Tsushima.” “The Limit of Lunar Distances.” “The Naval Training System of the Argentine Republic.” “Foreign Naval Notes.”

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BRAZIL.—*Revista Maritima Brasileira*. Rio de Janeiro : November, 1905. — “Nelson.” “Armour.” “Floating Depôts for Combustibles.” “Displacement of Battle-ships.” “Acoustic Underwater Signals.” “Mercantile Marine Schools.”

December, 1905.—“The New Floating *Matériel* for a Squadron.” “The Mercantile Marine.” “The German Instructions for the Care of Ships.” “Necessary Conditions for the New Fighting Ships.” “Target Practice and Targets in the U.S. Navy.” “Foreign Naval Notes.”

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CHILI.—*Revista de Marina*. Valparaiso.—Has not been received.

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FRANCE.—*Revue Maritime*. Paris : February, 1906.—“In Spain (September, 1903—July, 1904).” “The Finances of the German Empire and the Kingdom of Prussia.” “A Comparison between the most Recent Battle-ships.” “The Cruiser.” “English Naval Construction in 1905.” “Reports Communicated by the General Staff.”

*Questions Navales: Revue Générale de la Marine*. Paris : 10th March, 1906.—“Naval Gallery.” “Qualities required by the Accumulators in our Submarines and Submersibles.” “Can the Submarine be Autonomous?” “Submarines and Submersibles.” “Open Letter to M. Thomson, the Minister of Marine.”

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## NOTICES OF BOOKS.

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*The Siege of Quebec and the Battle of the Plains of Abraham.* By A. DOUGHTY and G. W. PARMELEE. 6 vols. 4to. With Plans, Portraits, and Views. (Dussault & Proulx.) Quebec.

This work embraces not only a very complete history of the Siege of Quebec and the historic battle, which practically decided the struggle for Canada between France and Great Britain in favour of ourselves, but also useful sketches of the lives of the two rival Commanders, while a number of very interesting letters and documents have been published in extenso in the form of an Appendix.

The story of the Siege of Quebec is the life of Wolfe and Montcalm for a few brief months, and their lives the story of the siege. The authors appear to have taken a great deal of trouble in obtaining the necessary information to enable them to draw up an accurate account of the siege and battle. Wolfe's army occupied three distinct camps: the Isle of Orleans, Montmorency, Point Levis; consequently the diaries of officers stationed for some time at any of these points would not probably of themselves contain a reliable summary of the daily operations going on elsewhere, but among other documents, the authors were able to obtain copies of twenty-three distinct relations of the siege, besides a number of plans, many of which were originals in manuscript, which elucidated many debated points of history and helped to accurately determine the site of the final battle on the Plains.

In 1748 the Treaty of Aix-la-Chapelle had put an end to the war between France and England, and it was understood that affairs in America would revert to the condition they were in previous to the commencement of hostilities; but between the two rival races in the wilds of the great Western Continent there was no real thought of peace. There was too much at stake. The possession of those vast territories was the prize. So the English were determined to continue the struggle, and the French were equally determined to check the advance of their powerful rivals. So, while France and England were officially at peace, French and English soldiers and Colonists were engaged in fierce contests on the banks of Lake George and of the Beautiful River. The fire-brand was the Ohio Valley, possession of which was claimed by each country. It was George Washington, a young lieutenant-colonel of twenty-seven years of age, who, in the spring of 1754, re-opened hostilities by an unsuccessful expedition against the French Fort Duquesne, an important stronghold on the Ohio. It was against Fort Duquesne that the luckless General Braddock led his ill-fated expedition; his army of some two thousand two hundred men being caught in the woods and almost destroyed on the 9th July, the following year, after crossing the Monongahela by a small force of two hundred and fifty French with some six hundred Indian Allies, Braddock himself being among the killed. That this state of war should have existed in America with the full knowledge and even connivance of the two mother countries is a curious comment on the way in which Treaties of Peace were observed in those days; but it suited the respective Governments to ignore the fact officially until the pretence of peace could no longer be maintained, and it was the outbreak in 1756

of what is known as the Seven Years' War between Austria and Prussia, but which involved both France and Great Britain, that gave the required opportunity for a formal issue of a declaration of war.

Wolfe and Montcalm! Two great generals whose names were associated in life by the momentous struggle in which they were engaged against each other, and for ever associated in death on the same battlefield by a common glory and by the faithful remembrance and admiration of posterity. Wolfe was the invader of New France—as Canada was officially called—Montcalm was her defender. They were the worthy champions of the two great nations who contended for empire on the shores of the noble St. Lawrence, and the authors of this work are to be congratulated on the spirited sketches—brief as they necessarily are—of the lives of the two leading figures in the Great Drama for the final possession of what is now the Dominion of Canada. Both sketches are naturally mainly devoted to parts they played in the final phase of the war, and of Wolfe it is only necessary to say that he appeared on the scene of the struggle at the siege and capture of Louisbourg in June, 1758, and that the story of his actions afterwards becomes the narrative of the Siege of Quebec.

Montcalm landed at Quebec on the 13th May, 1756; war between the two nations had then virtually existed for the two years past, and the frontiers of New France were being menaced at almost every point by an enemy whose resources were in every way far greater than hers. The Governor-General of Canada at that time was the Marquis de Vaudreuil, himself a Canadian, born at Montreal in 1704. He had the supreme direction of affairs, and Montcalm was unable to undertake anything without first obtaining his sanction. There seems to be no doubt that he grossly mismanaged the affairs of the unhappy Colony entrusted to him, and that he was quite unfitted to play the leading part assigned to him in the great drama then nearing its final act. He was extremely jealous, and he seems to have deliberately persisted in thwarting Montcalm; yet though he really held the Command-in-Chief, he always threw the burden of responsibility on Montcalm, whom he afterwards blamed for everything in his official despatches. Montcalm's position, therefore, was clearly one of no small difficulty, but for a time he succeeded not only in holding his own against the British, but in carrying the war into their country. His first notable success was the capture of Chonaquen, or Oswego, a strong post defended by three forts at the mouth of the river of that name, which runs into Lake Ontario on the south. The capture of Chonaquen seems to have been a brilliant achievement, for it had long been a serious menace to New France and a source of constant apprehension and alarm to the Colony; but with its capture the mastery of the great lake from Frontenac to Niagara passed for the time into the hands of France.

In the summer of the following year he laid siege to Fort William Henry, situated at the extremity of Lake George, which surrendered on the 10th August. The authors are at some pains to show that Montcalm was not to blame for what is known as the Massacre of Fort William Henry, one of the most tragic episodes of the war, made familiar to most of us in our boyish days by Fenimore Cooper's description of it in his well-known novel, "The Last of the Mohicans."

An unprejudiced study of original documents, however, makes it clear that Montcalm could not be held responsible for this tragedy, and that his well-deserved fame was not tarnished by the mournful events of William Henry. It seems clear that Cooper and other writers of the time greatly



exaggerated the facts and also the numbers of the unfortunate garrison who fell victims to the drunken fury of the Indians. Bancroft, the well-known American historian, bears testimony to the fact that Montcalm had kept all intoxicating drinks from his Indian Allies, well knowing that the savages became little better than wild beasts when under the influence of liquor, and that it was the English garrison, the night before the formal surrender, who supplied them, thinking in this way to propitiate the blood-thirsty warriors. The result was the maddened outbreak of the next day, and it was due to the heroic personal exertions of Montcalm and his officers, who, at the risk of their own lives—many being severely wounded by the savages—that the massacre did not assume appalling proportions; as it was, some two-thirds of the garrison, with most of the women and children, were rescued.

It was on the 8th July, 1758, that Montcalm achieved his last success, when he utterly defeated General Abercromby in his attack on Carillon or Ticonderoga, as it is called in English accounts; although it is probable that the fate of the day might have been very different but for the unfortunate death of the gallant Lord Howe, who fell in a sharp skirmish two days previously, and whose loss to the English army was irreparable. For a time Montcalm's brilliant victory saved New France, but from this time the fate of war began to press heavily on the doomed Colony. Abercromby, although repulsed at Ticonderoga, was still at the head of a force of 15,000 men—far outnumbering the French. As a set-off to William Henry and Ticonderoga, Louisbourg, in the east, surrendered to General Amherst on the 26th July, Frontenac, in the west, fell to another English force at the end of August, and it was evident that unless strong help arrived from France, the fate of the Colony was sealed. But here the importance of the command of the sea, which was now in the hands of Great Britain, showed itself. England was free to pour troops into Canada at her will, and when Bougainville, his trusted lieutenant, whom Montcalm had sent to France in the autumn of 1758 to lay the perilous position of the Colony before the King and Government, returned in the spring of 1759 with the news that reinforcements could not be sent, and that England was directing a vast armament against Quebec, Montcalm realised that his own death warrant, and that of New France, which he had tried so gallantly to save for his country, was sealed.

On the 25th June the British expedition, consisting of twenty-two ships of the line, thirty frigates, and a multitude of transports, had ascended the St. Lawrence as far as the Island of Orleans; on the 27th the men landed there, and at Pointe Lévis, on the south shore. The Siege of Quebec had begun. Wolfe and Montcalm were at last face to face.

Wolfe, at the time of his death, was only thirty-two years of age; he died the winner of one of the most eventful, most decisive, and most far-reaching in its results of all the great battles of the world's history. He gave to Britain a new Dominion. Idolised by his soldiery, he was moreover, in the words of Horace Walpole: "The only British general in the reign of George II. who can be said to have earned a lasting reputation."

Montcalm's memory has always been fondly cherished in Canada, but for over half a century no monument was erected to record his glorious deeds. It was in 1827, under Lord Dalhousie, that a stone column was dedicated to the two illustrious leaders, to whom a common death had given a common glory. In the words of the authors: "They fell upon the same day, upon the same battle-field, and the two strong races who



met in deadly conflict on the Plains of Abrahām, united in peace after having been opposed in war, have erected to the memory of the Vanquisher and the Vanquished a common monument, which will stand for ever as a symbol of the era of peace which succeeded the bloody strife of past ages." Inscribed on the monument are the following lines:—

Mortem virtus communem famam  
Historia, monumentum posteritas dedit.

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*Period VI. : The Balance of Power, 1715-1789.* By A. HASSALL. 8vo. 6s. (Rivingtons.) London, 1905.

*Period VII. : Revolutionary Europe, 1815-1899.* By H. MORSE-STEPHENS. 8vo. 6s. (Rivingtons.) London, 1904.

*Period VIII. : Modern Europe, 1815-1899.* By W. ALISON PHILLIPS. 8vo. 6s. (Rivingtons.) London, 1903.

*Story of the Campaigns in the Peninsular.* Part II. : *From March, 1811 to the End of 1813.* By Lieut.-Colonel H. M. BRUNKER. Crown 8vo. 7s. 6d. (Presented.) (Forster, Groom & Co., Ltd.) London, 1906.

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*Die Schlacht bei Mukden.* (Beiheft zum *Militär-Wochenblatt.*) 8vo. Berlin, 1905.

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*The Battle of Mukden.* Translated from the *Militär-Wochenblatt* by KARL VON DONAT. 8vo. 6s. (Presented.) (Hugh Rees, Ltd.) London, 1906.

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*Some Considerations Connected with the Formations of Infantry in Attack and Defence.* By Brigadier-General T. D. PILCHER, C.B., A.D.C., Commanding 3rd Infantry Brigade. Aldershot Military Society. No. 88. 1906.

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*An Historical Account of the Expedition against the Ohio Indians, in the Year MDCCLXIV., under the Command of Henry Bouquet, Esq., Colonel of Foot, and now Brigadier-General in America.* By Brigadier-General H. BOUQUET. 8vo. (Presented.) Philadelphia, 1766.

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*A History of Tactics.* By Captain H. M. JOHNSTONE. 8vo. 15s. (Presented.) (Hugh Rees, Ltd.) London, 1906.

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*Geschichte der Brandenburg-Preussischen Reiterei.* By Lieut.-General VON PELET-NARBONNE. 2 vols. 8vo. 10s. 6d. (Ernst Siegfried, Mittler & Sohn.) Berlin, 1905.

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*The Friends of England.* By Hon. G. PEEL. 8vo. 12s. (John Murray.) London, 1905.

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*The Constitutional Force.* By Colonel G. J. HAY. 8vo. 10s. 6d. (*United Service Gazette* Offices.) London, 1906.

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*With Mounted Infantry in Tibet.* By Brevet Major W. J. OTTLEY. 8vo. 10s. (Presented.) (Smith, Elder & Co.) London, 1906.

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*From the Yalu to Port Arthur.* By W. MAXWELL. 8vo. 16s. (Hutchinson & Co.) London, 1906.

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*Les Expéditions Anglaises en Asie.* By Lieut.-Colonel SEPTANS. 8vo. (Henri Charles-Lavauzelle.) Paris, 1897.

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*International Law.* By L. OPPENHEIM. 2 vols. 8vo. 18s. (Longmans, Green & Co.) London, 1906.

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Pay the Gen<sup>l</sup> for the Com<sup>dr</sup> of the Navy

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out a bill to Captain John Lawson Rec<sup>rd</sup> Com<sup>dr</sup>  
of the fleet for his pay & entertain<sup>mt</sup>. at Sea Com<sup>dr</sup>  
from the date of his Commission to this day after the  
rate of twenty shillings per diem.

Rob: Blake

Wm. Burton

Copy of a Document, dated 25th November, 1653,  
bearing the signature of Admiral Robert Blake.

Robert Blake was born at Bridgwater in 1599, and died on board  
his ship, the "George," at the entrance of Plymouth Sound, on  
7th August, 1657





# THE JOURNAL

OF THE

## ROYAL UNITED SERVICE INSTITUTION

VOL. L.

MAY, 1906.

No. 339.

*[Authors alone are responsible for the contents of their respective Papers.]*

### SECRETARY'S NOTES.

1. The following officers joined the Institution during the month of April:—

Lieutenant G. E. du P. Moore, R.G.A.  
 Captain W. G. C. Hall, 1st V.B. Royal Sussex Regiment.  
 Lieutenant G. M. Ormerod, R.H.A.  
 Lieutenant R. F. Gross, South Wales Borderers.  
 Sub-Lieutenant M. F. F. Wilson, R.N.  
 Major W. R. Arnold, Dorsetshire Regiment.  
 Lieutenant J. B. L. Monteith, Gordon Highlanders.  
 Major T. E. Compton, late Northamptonshire Regiment.  
 Second Lieutenant P. L. E. Walker, 7th Hussars.  
 Colonel T. Simpson, late 3rd Battalion Royal Irish Fusiliers.  
 Lieutenant R. B. Bergne, Leinster Regiment.  
 Colonel E. E. Carr, C.B., Staff.  
 Captain G. A. Elliot, Royal Irish Regiment.

(No officer of the Royal Naval Reserve or Imperial Yeomanry joined the Institution during the month.)

2. The date of the RECEPTION has been fixed for Wednesday, 27th June, at 9 p.m. His Royal Highness the President hopes to be present. The entertainment will be similar to that of last year, but the programme has not yet been definitely arranged. The dress will be evening dress with decorations and medals. Members of the Institution have the privilege of introducing two guests (ladies or gentlemen) by ticket. The price of tickets for both members and their friends will be five shillings each (to include refreshments). The tickets, being limited in number, will be issued in order of application. Application, with remittance, should be made to the Assistant Secretary, Royal United Service Institution, Whitehall, S.W.

3. By a regretted omission, the Frontispiece of the April JOURNAL, consisting of the Colours of the City of London Trained Bands and Auxiliaries, A.D. 1642, was not acknowledged as being reproduced from the late Colonel Walton's famous manuscript work.

4. The two Special Courses of Lectures by Doctor T. M. Maguire, on the Military History Subjects for the May Promotion Examinations have been completed. Sixty officers availed themselves of the opportunities afforded them. The Secretary hopes that this attendance may be considered as satisfactory. The Council hope to hold a further Course in the autumn.

5. The Waterloo Model in the Museum has lately been thoroughly overhauled and cleaned. To enable visitors to better see the plan, electric light has been introduced into the case, and magnifying glasses have been placed at the most interesting points of view.

6. A complete collection, showing both obverse and reverse, of all the Naval and Military Medals (with their full complements of Clasps) struck at the Royal Mint up to the present year has recently been added to the Museum. It consists of :—

1. Waterloo, 1815.
2. Army General Service (Peninsula), 1793-1814, 25 clasps.
3. Navy General Service, 1793-1840, 9 clasps.
4. First Burma, 1824-1826.
5. India General Service, 1799-1826, 21 clasps.
6. China, 1842-1860, 6 clasps.
7. First Cabul, 1842.
8. Second Cabul, 1842.
9. Jellalabad, 1843.
10. Scinde, 1843.
11. Sutlej, 1845-1846, 3 clasps.
12. Punjab, 1848-1849, 3 clasps.
13. Second India General Service, 1852-1895, 23 clasps.
14. South Africa, 1853-1879, 6 clasps.
15. Crimea, 1854-1856, 5 clasps.
16. Baltic, 1854-1855.
17. Indian Mutiny, 1857-1858, 5 clasps.
18. Abyssinia, 1868.
19. New Zealand, 1845-1866.
20. Canada, 1866-1870, 3 clasps.
21. Ashanti, 1874-1894, 5 clasps.
22. Afghanistan, 1878-1880, 6 clasps.
23. Egypt, 1882, 2 clasps.
24. Egypt, 1884-1889, 11 clasps.
25. Khedive's Star, 1882-1889.
26. North-West Canada, 1885, 1 clasp.
27. Sudan, 1898.
28. Sudan (Bronze).
29. Khedive's Sudan, 1890-1902, 11 clasps.
30. West Africa, 1890-1900, 17 clasps.
31. Central Africa, 1904, 1 clasp.
32. Third India General Service, 1895-1898, 6 clasps.
33. Second Ashanti, 1896.
34. Uganda, 1897-1899, 4 clasps.
35. Uganda (Bronze).
36. Cape of Good Hope, General Service, 3 clasps.
37. China, 1900, 3 clasps.
38. China, 1900 (Bronze).
39. South Africa, 1899-1902, 26 clasps.
40. South Africa (Mediterranean, Militia Medal).

41. South Africa (Bronze).
42. South Africa (King's Medal), 1901-1902, 2 clasps.
43. Third Ashanti, 1900, 1 clasp.
44. East Africa General Service, 1900-1904, 14 clasps.
45. East Africa General Service (Bronze).
46. Fourth India General Service, 1901-1902, 1 clasp.
47. Tibet, 1903-1904, 1 clasp.
48. Royal Navy, Conspicuous Gallantry.
49. Distinguished Conduct in the Field (Queen's), 7 clasps.
50. Distinguished Conduct in the Field (King's), 3 clasps.
51. Distinguished Conduct in the Field (Cape of Good Hope, Queen's).
52. Distinguished Conduct in the Field (Cape of Good Hope, King's).
53. Meritorious Service (Honble. East India Company).
54. Meritorious Service (Queen's).
55. Meritorious Service (King's).
56. Meritorious Service (Cape of Good Hope, Queen's).
57. Meritorious Service (Cape of Good Hope, King's).
58. Meritorious Service (India, Queen's).
59. Meritorious Service (India, King's).
60. Royal Navy, Long Service and Good Conduct (William IV.).
61. Royal Navy, Long Service and Good Conduct (Queen's).
62. Royal Navy, Long Service and Good Conduct (King's).
63. Royal Navy, Ability and Good Conduct (Engineers).
64. Army, Long Service and Good Conduct (Honble. East India Company).
65. Army, Long Service and Good Conduct (Queen's).
66. Army, Long Service and Good Conduct (King's).
67. Long Service and Good Conduct (India, Queen's).
68. Long Service and Good Conduct (India, King's).
69. Long Service and Good Conduct (Cape of Good Hope, Queen's).
70. Long Service and Good Conduct (Cape of Good Hope, King's).
71. Militia Long Service and Good Conduct.
72. Imperial Yeomanry Long Service and Good Conduct.
73. Volunteers, Long Service (Queen's).
74. Volunteers, Long Service (King's).
75. Volunteers, Long Service (Colonial, Queen's).
76. Volunteers, Long Service (Colonial, King's).
77. Best Shot in the Army.
78. Arctic, 1818-1855.
79. Arctic, 1876.
80. Antarctic, 1902-1904, 1 clasp.
81. Antarctic, 1902-1904 (Natives).
82. Shooting Medal, Royal Navy.
83. Transport, 1899-1902, 2 clasps.

N.B.—As regards the Army General Service (Peninsula) Medal, the total number of clasps should be 29, but four of these could not be supplied. In the case of the Naval General Service Medal, the total number of clasps should be 230, but of this number 222 were for Fleet, Ship, and Boat Actions, and were not issued from the Royal Mint.

The following Medals, having been struck by the Indian Government, are not included in the above collection :—Ghuznee, Jellalabad (Mural Crown), Maharajpore Star, Puniar Star, and Roberts's Star.



## 7. The following additions have been made to the Museum :—

- a. Insignia of the Prussian Order of the Iron Cross. The Order was instituted on 10th March, 1813, by King Frederick William III., but was modified on 19th July, 1870, by King William I. It possesses three classes or grades. The Riband of the Grand Cross is worn over the shoulder; the other two classes, *à la boutonnière*. It has a black riband with white border for military distinction, and a white riband with black border as a civil award. *Lent by Colonel Lonsdale Hale.*
- b. The State Uniform of a Tartar General, a Manchu Mandarin of High Rank. It is about 100 years old. The helmet possesses two plumes, one of painted hawk's feathers for summer use, the other of sable-tail for winter use. These costumes are becoming very rare, and are consequently of considerable value. *Deposited by Major-General V. Hatton, C.B., Commanding the Troops, Hong Kong.*
- c. A Naval Night-glass, as used up to about the year 1840. By means of it a very large area is brought within view. *Given by Admiral J. F. L. P. Maclear.*
- d. An Entrenching Spade with Folding Handle, invented by Commander E. B. Boyle, R.N. The Spade is heart-shaped, slightly bent inwards,  $5\frac{1}{2}$  inches across the top and 9 inches deep to point, and made of hardened steel. The handle is a piece of steel with a circular knuckle hinge, working on a steel bar in the middle of a small square space cut out of the top of the Spade. The upper part is split to receive a short wooden handle, as in an ordinary spade. When the handle is upright for work, a projection below the knuckle hinge takes against the back part of the spade, and the underneath part of the knuckle takes on the Spade. A loose sliding steel ring turning off a stud keeps the handle upright; being loose, dirt is easily wiped out, therefore it cannot jamb. *Given by Commander E. B. Boyle, R.N.*
- e. A Bar Shot fired into H.M.S. "Asia" at the Battle of Navarino, 1827. *Given by Colonel A. E. Codrington, C.V.O., C.B., Commanding the Coldstream Guards.*
- f. Three Plans of Actions between British and French Fleets, including one of the 1st June; also an Original Drawing showing the positions of the two Fleets, preceding and during Lord Howe's action of the 1st June; also several Plans, some of them contemporary ones, of Land Battles, including the Campaign of Marshal Suchet. *Given by Colonel A. E. Codrington, C.V.O., C.B., Commanding the Coldstream Guards.*

8. *Extra Lecture*.—"The Argentine Republic and its Neighbours," by Major-General Sir A. B. Tulloch, K.C.B., C.M.G. The Chair will be taken by His Grace the Duke of Argyll, K.T., G.C.M.G., G.C.V.O. Date of this lecture will be notified later.

# THE USES OF CAVALRY AND MOUNTED INFANTRY IN MODERN WARFARE.

*By Brigadier-General E. C. BETHUNE, C.B., p.s.c.*

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Thursday, 22nd February, 1906, at 3 p.m.

Lieut.-General Sir J. D. P. FRENCH, G.C.V.O., K.C.B., K.C.M.G.,  
Commanding-in-Chief Aldershot Army Corps, in the Chair.

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THE intelligent use of mounted troops with an army has such vital and far-reaching effects on the strategy and tactics of a campaign that too much thought cannot be given to the matter.

It is unfortunate that late campaigns have not thrown very much light on the much disputed question of the utility of cavalry under modern conditions.

In the war of 1870, the Prussian Cavalry had all the best of it, and they, though by no means making the best of the cavalry arm, had no opposition from the French, who, forgetting the traditions of the Napoleonic Wars, and following the old tactics of the days of Marlborough, kept their cavalry in masses in readiness for shock action, neglecting almost entirely the essential duties of reconnoitring and scouting.

In South Africa we may say that the cavalry on many occasions were unsatisfactory. But there the cavalry, owing to their small numbers, had not only the arduous duties of scouting to perform, but might be called upon at the close of a long day to make a charge with tired horses, and men unable to take full advantage of the mobility of their arm.

In the late Russo-Japanese War, both Russians and Japanese missed opportunity after opportunity.

A careful study of late campaigns will, I think, show us that many opportunities were missed for cavalry action, which, if taken full advantage of, might have had far-reaching results.

Cavalry is an expensive arm to keep up, and unless we are going to have full value out of it for our money, it would appear better to abolish it altogether.

I assume that the value of a large force of cavalry with a modern Army is recognised by us, in as great degree as it is recognised by all other military nations, and that it is only that all-important question of pounds, shillings and pence that prevents us in our Army having the proper proportion of cavalry; I need not, therefore, insist too much on the value of cavalry in modern warfare; I will only try to demonstrate how the arm, which we alone of all Continental Powers possess, namely, the mounted infantry, can be best used to supplement and support our existing cavalry.

I am thoroughly aware that the subject of the relative values of cavalry and mounted infantry was carefully gone into and discussed some few years ago, but the whole matter was then in a nebulous state, and nothing of a practical nature could be brought forward in defence or otherwise of mounted infantry; but we have now passed the academic stage of the question and can look on it with the experience gained in the last few years, an experience gained from practical use of mounted infantry in war.

In addition to this, I think that the tendency then was to consider the question from a point of view of cavalry *versus* mounted infantry. I should like to lay the matter before you to-day, rather from the standpoint of cavalry *plus* mounted infantry. Anyhow, I may claim to be considered impartial in this matter, as I have served in the infantry, have raised and commanded a regiment of mounted infantry, and have also served in and commanded a cavalry regiment and a cavalry brigade.

I propose to set forth my views to-day, as shortly and as simply as possible, without any references or examples, hoping that it may lead to a discussion, which will bring us a step forward on the road to more complete knowledge on the subject.

Unfortunately, the new arm, if I may so call it, the mounted infantry, which has been introduced into our Army, has induced a great many persons to think, that there is less necessity for cavalry than ever, and that in fact the *rôle* of cavalry should be turned into that of mounted infantry. It is, I contend, quite conceivable that there may be room for both, and it seems better business to try how the two branches of the mounted service can work together, rather than to waste time arguing about their respective merits.

In my opinion, mounted infantry should be a source of strength to the cavalry, rendering a combination of the two with horse artillery an independent fighting force.

In my lecture to-day I propose to suggest to you, what, in my opinion, is the proper *rôle* of each arm, each being the complement and supporter of the other. To make this clear to you, I will set forth what I think should be the duties of cavalry; what should be the duties of mounted infantry; and finally, how they can mutually co-operate during a campaign, omitting all questions of Royal Horse Artillery, as that would widen my subject unduly.

The duties of cavalry are four-fold; they must cover the front and flanks of the army with an impenetrable screen, their scouting must be energetic and bold even to rashness. By an effective performance of these duties, the cavalry can, not only deny to the enemy any chance of finding out our dispositions, but at the same time can find out as much as possible of the movements and dispositions of the enemy.

Secondly, they must have such cohesion and discipline, that on occasion they will be able to make use of shock tactics should the opportunity present itself.

Thirdly, there should be sufficient cavalry to operate in large bodies wide on the flanks, to threaten the flanks and rear of the enemy. The very fact of an unknown and highly mobile force operating on his flanks and threatening his communications, must be a disturbing factor in his appreciation of the military situation, and will probably cause him to neutralise many more troops on his lines of communications than he otherwise would do.



Fourthly, there must be cavalry, fresh and ready to pursue the enemy if defeated.

There must be sufficient cavalry under an independent leader to carry out all these duties, the screening duties of the main army being carried out by a force specially detailed, and the remainder forming part of the mobile troops, whose duties are to threaten the enemy's flanks and rear, and force their way through the opposing cavalry, and so discover the secrets that lie behind.

I am in favour of doing away with divisional cavalry, as it exists at present, the orderly duties of which can be equally well carried out by cyclists and mounted infantry, thus setting free one regiment per army corps to perform its legitimate duties.

The screening duties would be performed by cavalry told off for the purpose by the officer commanding cavalry, and these troops could be changed from time to time as occasion offered, so as to give everyone a turn. And in using the term screen, I do not mean a fan covering the army at a fixed distance in front of the main army, but a force of cavalry, which would be the feelers or *antennæ* of the army, and give timely warning of any danger threatening the column. This was very ably pointed out by Colonel Gough, in the paper read at this Institution a few months ago; but according to my idea the troops composing the screen should be quite distinct from the striking force, which might, on occasion, have to make a dash, which would land it far from the main army.

It must be remembered, however, that the enemy's cavalry will, or should, be, actuated by the same ideas, and will have precisely the same object in view. In order, therefore, to be able to circumvent their dispositions, we must endeavour by all means in our power, to make our cavalry arm as efficient and mobile as possible. And, as a machine without a head or mainspring is of little value, our cavalry leaders must be the very best men that the country can produce. A cavalry leader, to be of any use, must be a good, bold horseman; he must know exactly what his horses are doing and can do; he must have a quick eye for country; and be prompt to seize fleeting tactical opportunities, and make the most of them when they present themselves. In my opinion, with cavalry the leader is everything; if he is confident in himself, and in his troops, he will infuse his spirit throughout his command. If he hesitates or lacks decision, he will, however good the troops composing the force may be, very soon reduce them to his own mental state, and they will lose three-quarters of their fighting value. This applies to all fighting troops, but doubly so to cavalry, as their opportunities must be seized in a moment.

In order to breed such leaders, the cavalry officers, commanders of regiments, squadron and troop leaders, should be of the very best quality, and the standard of qualifications should be as high as possible. Quickness and self-reliance, which only come from complete knowledge, should be fostered and encouraged.

The rank and file should be equally good of their kind.

Complete knowledge on the part of the cavalry leader, means the understanding of war in its fullest sense. Such a leader must be able to read the symptoms which reveal themselves of the hostile movements visible or semi-visible in the "fog of war." Cavalry leaders must be thinkers, and know the strategical work that lies before the hostile army, as well as before their own. Only, if able to do this

owing to previous thought and study, will they read correctly the signs and portents in the campaign. It is the probable lowering of the mental power that makes so serious the lowering the standard of entry into the cavalry.

As regards the training of the cavalry soldier, he must be thoroughly trained as a cavalry soldier, and understand that he and his horse, and his weapon, together, form the cavalry arm. The knowledge that he has complete mastery over his rifle will double his value when detached from the main body, and enable him to hold his own for a time in a fight with the opposing infantry. Accurate shooting, principally at long ranges, must therefore form an integral part of the cavalry soldier's training. But this portion of the training must not be allowed to weaken his spirit and dash; he must be taught and thoroughly believe, that he is most effective when on his horse and armed with the *arme blanche*. Whether the lance or sword is to be the principal weapon of shock action, is a question that can only be decided by actual experience in war. Personally, I think that the lance, wielded by a lancer, expert in the use of his weapon, and thoroughly master of it, is far superior to the sword, both in its moral effect, and its actual effect; its only drawback, of course, is, that for dismounted work it is somewhat in the way. For smaller patrols it would be invaluable, in cases where hostile patrols meet suddenly and cannot dismount to fire. The musketry training of mounted infantry should be precisely that of infantry.

We will now turn to the training of mounted rifles or mounted infantry. I accept the definition of the mounted rifleman as being a horseman and an expert shot, and capable of performing all the duties of cavalry, with the exception of shock action.

Such are our Imperial Yeomanry and the numerous Irregular Horse maintained by our various Colonies. But as these will not be immediately available for use on the mobilisation of a force for war, we will pass to the only other mounted arm we should have immediately available, namely, the mounted infantry. In the short time at my disposal, I am not able to give details of training for mounted infantry, but I would only premise that the mounted portion of their training should be as short as possible compatible with efficiency. The tendency of the Englishman, when mounted on a horse, is to assimilate himself more and more to cavalry, and the further his education and training go in the direction of cavalry, the further he gets from efficiency as a fighting infantryman.

The uses of mounted infantry are three-fold: Firstly, to form a mobile reserve for the general officer in chief command, who can apply them quickly at any given spot during the fight; secondly, to supplement and support the independent cavalry; and thirdly, to be able to take over the screening duties from the cavalry at a pinch. No. 1 is obvious and requires no special comment; it is therefore, to No. 2 that I should like chiefly to direct your attention.

In some Continental Armies it has been thought that machine guns could take the place of men in the field, but I do not think that this theory could be sustained under all circumstances, and our mounted infantry should be far more efficient as a support to cavalry than machine guns. It has been argued so often that cavalry should be altered in its training, so as to assimilate it to mounted



infantry, that it seems worth while to consider for a few moments the duties which have to be carried out by mounted troops, call them cavalry, mounted infantry, or mounted rifles, as you will, and then see what class of men and horse is most suitable for these duties. The screening and reconnoitring duties require special and highly technical knowledge. The stamp of horse necessary to cover the distances required must be a good one, and its height should not be less than 15.2 or 15.3. This height is also required to enable horses to have sufficient stride to gallop on occasion. Now the very fact of this horse being 15.2 hands, and more, makes it harder for a man to mount and dismount quickly, and the difficulty of keeping led horses quiet when they are mettlesome and high-spirited is much increased. On the other hand, the class of cob which is most suitable for mounted infantry, is, as a rule, quieter than a cavalry horse and far easier to mount and dismount from. Therefore, it follows, that if all our mounted troops are mounted on well-bred and galloping horses, their efficiency when called upon to fight dismounted would suffer. On the other hand, if we mount them all on cobs from 14.2 to 15 hands, efficiency, when they are called upon to move fast, will also suffer. It seems rational, therefore, to suggest that a portion of the troops should be mounted on horses suitable to move rapidly, and for a portion to be mounted on cobs, which will not be required to cover such long distances, but which will be perfectly capable of carrying their riders trained to fight as infantry soldiers in rear of the quicker-moving troops, and ready to seize tactical positions, and hold them strongly in support. And so our mounted troops fall naturally into two groups; the highly-trained horseman the cavalry soldier, and the equally efficient, but less highly specialised mounted infantryman. In the time available for the training of the mounted soldier, I do not think that he can be taught more than to ride; to make the best of his mount; to take care of it on the march and in camp; and to look after his saddlery. This is, of course, in addition to his outpost and scouting duties. This is but the commencement of the training of the cavalry soldier. Unfortunately for us, in our Army we have so few mounted troops that the cavalry and mounted infantry have often to be used for the same purposes, to the detriment of both.

On several occasions in the late Russo-Japanese War, the Russian cavalry attacked the Japanese in villages dismounted; they drove them out of the villages or from positions which they had taken up, with their rifle fire, but by the time they had mounted and gone in pursuit, the Japanese had had time to take up another position, and the work had all to be done over again. Now, had the Russian cavalry been supported by a force of mounted infantry, they could have dismounted in the first instance and held the enemy with their fire; meanwhile, the mounted infantry would have come up, relieved the cavalry, and commenced an organised attack on foot, and the cavalry would have mounted and awaited the moment to attack when the Japanese were pressed out from the position and commenced their retirement. Thus each arm would have performed the duties it was best suited for, and the co-operation would have been attended by the most excellent results. It may be said: "Why should not cavalry supports have been equally available to carry out the duty of the attack, a portion of the force remaining mounted?" That is perfectly true; but it would be making use of a force highly trained



in other directions for duties which could be better performed by infantry.

I propose, therefore, to state my case as follows:—

We have not in our Army enough cavalry for our needs in war, therefore, to get proper cavalry effect we must support cavalry with infantry, to gain the proper strategical and tactical value; these, however, cannot move fast enough to be of any support to cavalry. We must, therefore, by some means or other, carry our infantry quicker than they can walk. They can be transported in carts or on mules, as suggested by General Sir C. Egerton in his notes on Colonel Kenna's report on the mounted infantry in Somaliland. As a *point d'appui* for cavalry, infantry are far better than cavalry, owing to their better shooting and better style of fighting on foot.

However, by mounting our mounted infantry on ponies, we gain a still further advantage, namely, that the mounted infantry can, in the absence of the main cavalry force, take over the scouting and reconnoitring duties of the Army. I contend then, that our mounted infantry, used as I proposed, is a source of great strength to our cavalry, the two arms in combination with horse artillery being absolutely self-supporting and independent.

To carry this idea to its logical conclusion, we should have to add to mounted infantry, engineer troops for bridging purposes and demolition; but what we should gain on one hand by so doing, we should lose on the other, by hampering our cavalry forces, which should be absolutely mobile, with wheeled transport. I would, therefore, stop short at the cavalry, mounted infantry, and horse artillery.

The question of supplies of food and ammunition must also enter largely into the employment of cavalry and mounted infantry in the manner I have endeavoured to set forth. If it is difficult to supply a main army in the field, how much harder must it be to supply an extremely mobile force, such as I am speaking of to-day? But that it is not impossible I will endeavour to show. It is not wise for a force of any size, such as a cavalry division, to operate in an enemy's country and expect to live on that country. In most European countries, it would be possible to supplement our rations by supplies taken *en route*, but a certain amount of supplies must be carried to render a force independent.

Condensed food, tabloids, etc., may keep a man going for a day who had two or three meals the day before, but the second day he will undoubtedly want something more substantial. So that to render our mounted forces independent, we must evolve some system of supply, and I will here briefly sketch my ideas of how the supply system may be carried out.

In the limit of time I have set myself, I cannot go into details and particulars, but merely sketch out the general principles of my proposed system.

I assume that to a certain extent, the line of advance of my main force will cover the country on both flanks. I shall, therefore, take no great risk in starting a special line of supplies towards my cavalry and mounted infantry moving on the flank (see diagram). The 1st Cavalry Supply Dépôt might be, say, twelve miles on the flank towards which the cavalry are operating. This could be protected by infantry, and if necessary, by field guns. As the army moved forward, this post would also move forward, carrying with it the unexpended stores of food and ammunition, beyond that post,

**THE ENEMY**

**INDEPENDENT CAVALRY  
& HORSE ARTILLERY**

**LINE OF ADVANCE**

**MAIN ARMY**

**DIVISIONAL SUPPLY DEPOTS**

**PARTIALLY PROTECTED  
COUNTRY**

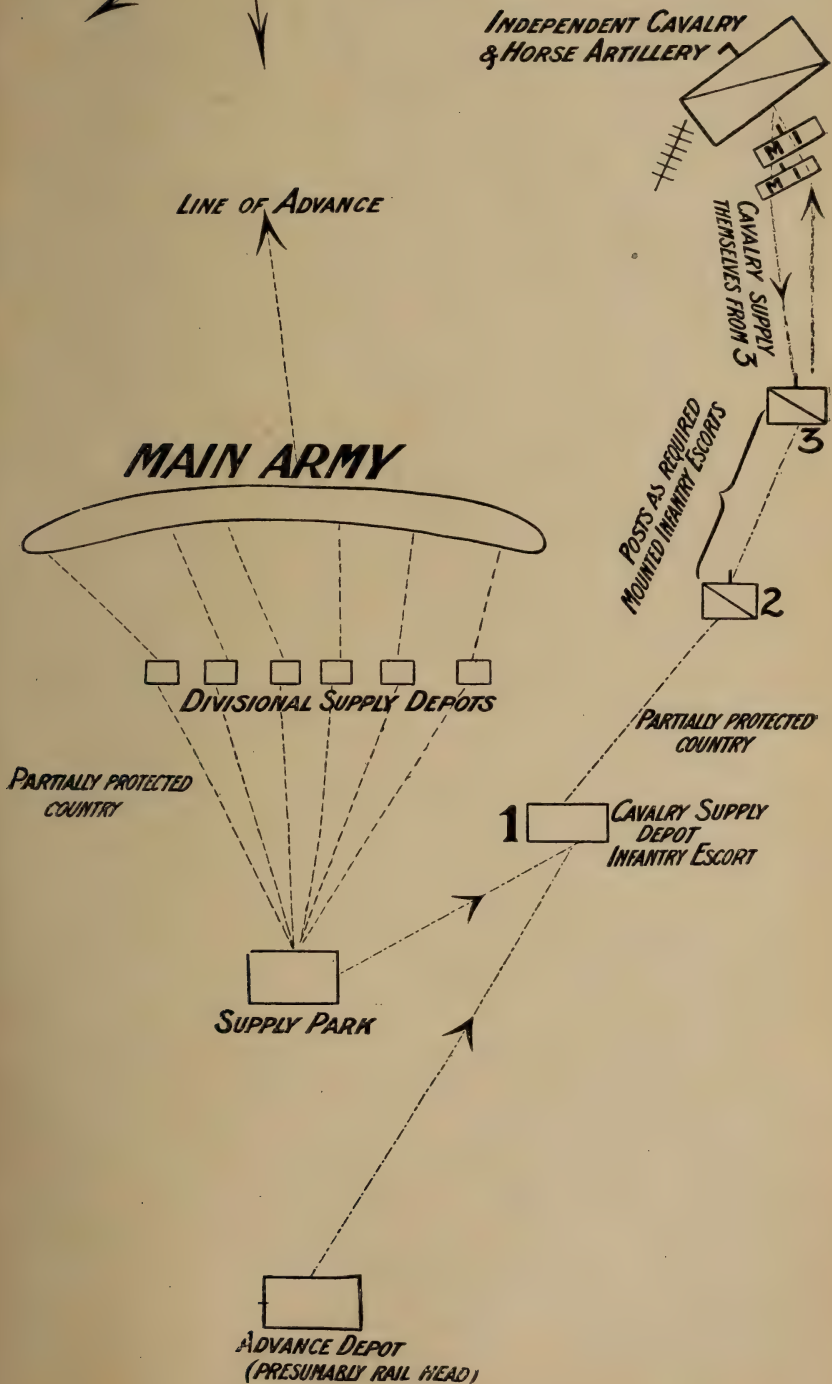
**POSTS AS REQUIRED  
MOUNTED INFANTRY ESCORTS**

**PARTIALLY PROTECTED  
COUNTRY**

**1 CAVALRY SUPPLY  
DEPOT  
INFANTRY ESCORT**

**SUPPLY PARK**

**ADVANCE DEPOT  
(PRESUMABLY RAIL HEAD)**



which would be filled up from the advanced dépôt or supply park as might be most convenient, I would have subsidiary dépôts each protected by a party of mounted infantry, whose strength would vary with the size of the force they had to supply; by means of this chain of posts, I should easily be able to keep mounted troops supplied with food and ammunition, allowing, say, 8 days' full rations for men and horses to last for 14 days. There should be no difficulty in obtaining meat from the country, so what I would chiefly carry would be bread stuff, groceries, and ammunition. Ammunition would be carried in the ammunition column attached to the Royal Horse Artillery, but more might be required. Being highly elastic and mobile, these posts could be easily withdrawn, should the striking force have to operate on the other flank, and similar posts thrown out to meet it. These arrangements would be necessary for a force operating continuously wide of the flank of the main army; for a raid with a definite object in view, such as the breaking of a railway or the seizing of a defile, and which, probably, would not last more than three days at the outside, light vehicles could be taken, if possible, from the country, carrying supplies; these could be abandoned when empty, or the force could chance living on the country.

Finally, to recapitulate the qualifications of the two arms, for cavalry and mounted infantry, we find necessary:—

#### FOR CAVALRY.

Highly gifted leaders—and by leaders, I mean every leader of a body, however small—good horsemanship, horsemastership, knowledge of country, quickness of perception, and highly trained intelligence, powers of shooting, especially at long ranges, and use of *arme blanche*, whatever it may be.

#### FOR MOUNTED INFANTRY.

Good knowledge of riding, horsemastership, intelligence, knowledge of country, and sufficient knowledge of scouting and outpost work, to take the place of cavalry at a pinch.

The mounted infantry soldier has a complete knowledge of infantry fighting; what he wants to practise is to get a more extended view or outlook of the military situation.

On two occasions in the South African War, I saw mounted infantry regiments formed from infantry battalions, and set to work at their duties. It was extremely noticeable that for the first few weeks they did not get into the way of looking far enough afield, consequently patrols got surprised and cut off when they should not have been. This, however, was due to their infantry training, and a little experience of mounted work soon corrected it. The rôle of cavalry is, in my opinion, enormously strengthened by the support which it will get from the mounted infantry on wide operations, and working in conjunction with it, we should have an incalculable advantage over the cavalry of any other nation.

I think, that the true rôle of the mounted man in battle, is to operate wide on the actual line of battle, and thus used, they would, in a smaller degree, have the strategical effect of the Navy at sea by threatening various points at the same time.



Lieut.-Colonel H. DE LA P. GOUGH, *p.s.c.*, 16th Lancers (Staff College) :—The only point in the lecture that struck me as being open to discussion is with regard to the use of cavalry on the actual battlefield. In the concluding paragraphs of the lecture, General Bethune said he thought the cavalry ought to be employed very wide on the flank. I think myself there is no doubt that the mass of the cavalry should be employed on the flank; but I think in England we are rather inclined, possibly, to employ them too wide on the flank, to operate too far away from the main battle, and not use the cavalry in the actual main battle and in the attack on the other arms, in close combination with the *decisive* attack, when it comes off. As far as Continental nations are concerned, I am perfectly certain that when a big war takes place on the Continent, we shall see both the French and German cavalry acting in the very closest co-operation with the decisive attack on the enemy's infantry. Of course, they may have to defeat the other cavalry in order to be free to co-operate in this manner; but if the opposing cavalry are away trying to get round the rear, I do not think the Continental authorities mean to take any notice of them. I think they intend to bring *the whole of the three arms to bear on the decisive point*, and I think that is a subject which is worthy of our attention. That is the only thing I wanted to say, because I think commanders are at times rather inclined to say to the cavalry, "Oh, you go away on to the flank, then I need not think about you any more; I can now pay attention entirely to the infantry and the artillery." But I think it is a combination of all three arms on the decisive point which is going to make for *decisive* victory in the future as in the past.

Colonel A. J. GODLEY, *p.s.c.*, Mounted Infantry School, Aldershot :—The only thing I have to say is that I think we, of the Mounted Infantry, training with the Aldershot Army Corps, will all agree very much with what the lecturer has said. The only thing to which I do rather take exception is what he said about the mounting of us on mules. I think, Sir, you know I have a very good reason for saying so, because for the last two years we have had a very big concentration of the whole Mounted Infantry of the command at Aldershot, and you have set us such tasks to do on the days that we have been concentrated as I should be exceedingly sorry to take on with mules or any kind of ponies, except extremely good and active cobs. I am perfectly certain that Mounted Infantry, to be of any real help to the cavalry and of any real value to the Army, must be so well mounted that they can go over any sort and kind of country, and follow the cavalry wherever they can go; and I think it rather lowers our standard if there is any idea that we should be carried on any kind of conveyance which does not fulfil those conditions. I am glad to see that, in the same connection, General Bethune said something about the cavalry being hampered by wheel transport. It has been said to me very often that infantry carried on carts are mounted infantry, and I think, by what he has said, General Bethune has shown what a heresy that is. I should like to emphasise that our principles have been infantry first and foremost, and our men are trained absolutely as infantry in every way, with the advantage that our training I hope is much more extended, and goes as much farther afield on infantry principles as our cobs will carry us. There is one other thing I should like to say, and that is, that a distinguished cavalry brigadier said something to me which I think sums up the whole situation most perfectly in a very few words. He said that his cavalry brigade now was a force

of all arms. I think that is the very best definition, and gives the best idea of the rôle of mounted infantry and cavalry in any cavalry force that could possibly be made. He said: "In my cavalry brigade I have got three regiments of cavalry, a battery of artillery, and a battalion of infantry"—mounted infantry, but none the less infantry because they are mounted.

Major-General Sir EDWARD T. H. HUTTON, K.C.M.G., C.B., *p.s.c.*:—The lecturer will, I hope, allow me to congratulate him upon the excellence of his lecture, and also upon the fact that he represents what so many of us wish was more generally represented in the British Army, that is to say, an infantry soldier who, showing a special aptitude for the mounted service, has been transferred to the mounted branch. I think Sir John will forgive me upon the present occasion if I remind the audience—as there is in the air the idea that the tactics of cavalry are ended—of what the recent Commander-in-Chief, Lord Wolseley, to whose intuitive military genius we owe the establishment of mounted infantry in the British Army, said on the subject of mounted infantry and cavalry. His view was to have mounted infantry for two purposes. Firstly, to give the cavalry what is required in the shape of fire power; and, secondly, to increase the value of the infantry themselves upon the modern battlefield by giving them a small proportion of mounted men who would thus provide them with their own mounted scouts and reconnoitring parties. The importance of these points has been well exemplified in the Russo-Japanese War. These are Lord Wolseley's words in the discussion following a lecture<sup>1</sup> given here nearly twenty years ago:—"We are told the cavalry soldier ought to be as good on foot as the infantry soldier is. I do not believe in the jack-of-all-trades; I think he is a myth. I believe the cavalry soldier ought to be taught to fight on foot when it becomes necessary to make him do so; but in my opinion to make him do so except in an emergency is a waste of power." In 1891, when the mounted infantry movement had been well established, he again made use of these expressions<sup>2</sup>:—"The cavalry soldier is intended to fight on horseback. If you intend to make him fight on foot, well, you will make him into a very bad mongrel, to a bad dragoon; but he will not be the dashing soldier which you wish him to be in the open country. I should be very sorry to see it happen to our cavalry. To make men good horsemen, to teach them to fight as they do effectually when they are in the saddle, I think it would be a prostitution of the finest part of our Service—the finest part of our Army—if for a moment you convert our cavalry soldiers into men fighting on foot; and it is for this reason, and this reason only, that I would wish to see attached to every cavalry regiment going into the field, where the country admits of it, a considerable force of mounted infantry. I do not agree with the opinion that because no foreign nations have adopted these views we should hold back until

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<sup>1</sup> "Mounted Infantry," by Major Hutton, King's Royal Rifles (late Commanding Mounted Infantry in Egypt).

<sup>2</sup> "Mounted Infantry: Its Strategical and Tactical Value," by Lieut.-Colonel Hutton, Commanding the Mounted Infantry Regiment. *Military Society of Ireland*, April 20th, 1891.



they do before we strike out a line for ourselves, and see the advantages which can accrue and will accrue to the general who has at his disposal a considerable force of mounted infantry in the field." I feel sure that you will forgive me for quoting the words of Lord Wolseley, to whom the British Empire owes the institution of mounted infantry. No one, I feel sure, would state in stronger terms than he the fact that the successful issue of the South African War was very largely due to the principles of mounted infantry being thoroughly recognised and carried into effect. As regards mounted infantry in its relation to cavalry, the combination of the three arms, cavalry, artillery, and infantry, unquestionably gives the cavalry and the cavalry leader the very power required. It gives to a mounted force that fire power, without which it is impossible in the present day to maintain or do defensive work in a campaign. The newspapers teem with incidents as regards the Russo-Japanese War in which it is easy to see that if either side had possessed a fine cavalry, very great results would have followed. I will merely quote one instance of an eye-witness, who said: "I could not help speculating what would have happened to the Russian infantry after a hard day's fight, or when retreating with their cartridges nearly exhausted, worn out with fatigue and want of food, if a well-handled body of hostile cavalry had suddenly appeared about dusk and charged resolutely home. The weakness of the Japanese cavalry must have often saved Russian retirements from degenerating into routs." We know that the Russian Cavalry was almost entirely composed of Cossacks, not their best troops, and that the Japanese cavalry are not good horsemen, and that they were without horse artillery or machine guns. With reference to shock tactics, perhaps the cavalry, among whom I am sitting here, will allow me to say a few words. I do not hold a brief for the cavalry, but I have the very strongest views as to the importance of shock tactics in the modern field of battle. There are those that would have us believe that the days of shock tactics are over. Of such I would ask whether the lessons taught us British soldiers during the following wars are not of some special significance—wars fought out by us under modern conditions of breech-loading weapons and machine guns:—In the Zulu War of 1879, at Isandlewana, where the 24th were swept away by the Zulus by a direct charge right up to the muzzles of their rifles; at Kambula, at Ginginhlovo, and at Ulundi; in the Afghan War of 1878-79, at Ahmed Kehl, where at one moment the infantry engaged were in a very delicate and dangerous position on account of the determined onslaught of the Ghazis; in the Soudan Campaigns of 1884-85, at El Teb, at Tamai, at Abou Klea, and at El Gubat, at the two last of which Sir John could, I have no doubt, tell you himself that they charged right up to the muzzles of our rifles. Are we to argue that a resolute, well-equipped cavalry are futile for shock purposes on a modern field of battle, in spite of our own personal knowledge and experience that even savages, with spears and shields, have broken our squares, unshaken by a long-drawn-out preliminary fight, untouched by shrapnel or by rifle fire, and confident in their own British pluck. We read that in the Russo-Japanese War the bayonet charge has been repeatedly resorted to, and that hand-to-hand fighting has, as in the days of old Brown Bess, upon numerous occasions decided the final issue of a fight. It is surely not unreasonable from the examples I have quoted to argue that the sudden onslaught of a well-led body of horsemen upon artillery or infantry, decimated and worn out with a long-drawn fight, and exhausted by losses, will prove decisive. If the Russian cavalry effected little in the late war it was because, as we



are told, it was ill-equipped, ill-trained, and badly led. If the Japanese cavalry failed it was from want of numbers, absence of machine guns and horse artillery, and ineptitude as horsemen. I am one of those who deprecate the present tendency of making our cavalry rely mainly upon their fire power, and to trust to dismounted action for their success in the field of battle. Initiative and enterprise must now, as ever, be the life and soul of a sound cavalry. This cannot be attained by impressing the cavalry soldier with the fact that he is useless for offensive purposes unless on his feet. I venture to express the hope that the near future will see an expansion of cavalry by the increase from three to four squadrons per regiment, but without increase of horses (each squadron being in turn dismounted for three months, during which period it would do its musketry, dismounted drill, and furlough), and that a Cavalry School of Tactics and Strategy may ere long be established. I believe that the future part to be played by mounted troops in modern war is yet to be realised. The first great leader of cavalry, who is given the means and has the opportunity of combining *shock* with *fire power* in right proportions, will do little less, in my humble judgment, than revolutionise existing theories of war. I only trust that the time may come when my gallant and distinguished friend, General Sir John French, may have that opportunity, and that I myself may be present to bear my part in his success.

Colonel LONSDALE HALE, R.E., drew attention to a paragraph on "The Field Exercise of 1889," which ran as follows:—"Mounted Infantry will in future probably form a part of every force in the field. It should move with the vanguard, and may on exceptional circumstances be employed in scouting and patrol duties, thereby allowing the cavalry to be reserved for combined action with the other arms." This regulation gave great offence to the cavalry, who, then and for years afterwards, vigorously declared that they could not only do their own work, but that of the mounted infantry as well. Only a year ago, in the discussion following a lecture given by Colonel Gough, he had depicted an ideal cavalry division, able with its dismounted men, its pioneers, and its artillery to act independently as a force of all arms. According to the lecturer, these ideas were quite unpractical, and we must go back to the principle enunciated 17 years ago for real cavalry work in the field.

Colonel C. B. MAYNE, R.E.:—I am very glad that Colonel Hale read out that paragraph just now, because it conveys the idea of another combination of cavalry and mounted infantry which I think we must consider; but which is the best I am not prepared to say offhand. It probably depends on circumstances. About four years ago I wrote for the Indian Institution a paper very much on the same lines that General Bethune has written. I have thought over the matter a good deal since, and for some of the very reasons that General Bethune has mentioned in his paper, I think we ought to consider this other combination which Colonel Hale has epitomised in the paragraph that he read. The only criticism which I would like to make on this admirable lecture is the definition of a mounted infantryman as being able to do everything that the cavalry can do, except the charge. The reasons, I think, will be apparent as I go on. As regards the relative uses of cavalry and mounted infantry, the first point to be considered is their relative financial values. It is admitted that cavalry are far more expensive. We all know that the money granted for the Army is a limited sum every year, and with that limited sum we have to do the best we can to meet the main general

requirements of the Army. We may talk about the desirability of increasing this, that, and any other detail; but the general view of the whole matter must rule the case, and it is very doubtful whether for many years we shall get any considerable increase in our cavalry arm. This fact will govern the relative numbers that will be probably available for war. We know that in South Africa our cavalry did not amount to more than one twenty-eighth part of the infantry in the field, and then it was all broken up. The normal proportions in European warfare would be about one-sixth, and in such a country as Africa it ought to have been about one-fourth. We should then have had sixty thousand cavalry in the field, and they would most probably have settled the war in a very short time. We have to face the fact, that we will not get the large increase of cavalry that we ought to have, and that we would like to see, in the field, and the question we have to consider is how to supplement it in its work. As far as I have read with regard to the Russo-Japanese War, there was no cavalry on either side worth calling the name of cavalry. The relative duties of cavalry and mounted infantry should be summed up, I think, very largely in their principal methods of fighting, namely, the cavalry to fight on horseback and the infantry to fight on foot. Whatever takes place besides these are additional duties which they are called upon to perform when they are needed. I have spoken more than once in this hall of my belief in the possibility of cavalry charges in close mass, especially with modern armaments. I do not think the modern bullet will stop a horse—it will hardly stop a man at times; but when one comes to think that a soldier has to go into action with something like two or three hundred rounds of ammunition, and has to raise his rifle two or three hundred times in order to fire that number of bullets, it means that his firing must get very slack and worthless in a very short time, with the result, as Sir Edward Hutton pointed out, that proper cavalry charges could have been made on the battle-fields in Manchuria again and again with the greatest ease, and with hardly any loss at all. We can, I think, recall occasions in South Africa very similar to those that he has mentioned that might have proved serious to us had the Boers had proper cavalry. Another important point that has not been mentioned at all is the relation of the man to his mount. As has been very properly said, the cavalryman and his horse are one, and the mounted infantryman and his horse are two. What is the conclusion to draw from that? The conclusion that I draw from that, and which I have always upheld, is (I am talking now of a serious fight, not a skirmish) that the mounted infantryman must, when he arrives at the place of fighting, forget that he has a mount at all. If from that moment onwards you have one or two men out of every four left behind to look after the horses, you lose a very serious proportion of effective rifles. In my humble opinion, the "mounts" of mounted infantry should be hobbled and herded under the charge of one man per company, so as to get all the rifles possible into action. If for any reason the "mounts" are lost, it is not a serious matter affecting the campaign, and they can be more or less easily replaced. Then comes another question of the character of the mounts. The cavalry horse must be a trained horse. We all know the great losses we had in South Africa with our horses; I need not refer to the many reasons for the terrible wastage that took place there: but it was partly owing to that wastage that our cavalry developed into mounted infantry. You can replace the mounts, at all events to a certain extent, of mounted infantry, but you cannot replace the mounts of cavalry. In South Africa we absolutely destroyed our cavalry arm owing



to the way in which we used them. Owing to their small numbers they were more or less used up long before the mounted infantry appeared, with the result that their trained horses were destroyed and could not be replaced. Knowing the very small number of horses that are available for cavalry and the great difficulty of bringing up trained remounts for them, it is a question whether we should use our cavalry in such a way as has been sketched out in this paper, and which I myself advocated about four years ago. Our usual idea of scouting is that of a few men moving over a considerable tract of country. That means very high training, the ideal of which the cavalry should always maintain. I do not believe that the mounted infantry should be expected to reach the same standard as the cavalry, otherwise there is a loss of power in other respects. The alternative idea that I now want to put before you—I am not advocating the one or the other, but I hope the two will be considered as alternatives that may each find their application under suitable conditions—is that quoted by Colonel Lonsdale Hale, viz. : Whether we should not reserve the cavalry forces, with their ideal training, as a reserve for emergencies or for the special occasions mentioned by General Bethune, such as, for instance, of sending them off on wide movements, where you want the highest trained men you can get in every way ; whereas for what I may call mere reconnaissance work you can flood the country in front of the main operations with a large number of the cheaper force of mounted infantry. I know that in a country like England it is not easy to move straight across country, but all countries are not enclosed, and in Afghanistan a mule would do far better than the best cob ; it is more sure-footed and can clamber over the hills better. If you used horses, their hoofs would soon wear out. Going back to past history, the great flood of tribes that poured across Europe took the shape of a wide front of mounted horsemen. When the Turks began to flood Europe it was with a wide front of mounted horsemen. In Frederick the Great's campaign he was entirely at sea again and again because he was surrounded by a flood of Hungarian mounted troops. Napoleon at times was also completely at sea, especially in his Russian campaign, owing to this flood of mounted infantry—not skilled cavalry, but mounted infantry spread out in a long line, and which flooded the country and swept round his flanks and rear, so that they always knew where he was. The question is whether we should not *on occasions* be wiser to make more use of mounted infantry—a cheap force compared to cavalry, and one which could be raised in a very much quicker time—at all events for wide strategical reconnaissance work, and whether we should not try and feel for the enemy by a long line of mounted men, who would simply find the enemy by contact, and who are less skilled men than highly-trained cavalry scouts, and so keep back our cavalry units, which are more expensive and more difficult to replace, for the more special occasions on which it would be worth while to sacrifice them, and not to throw them away on such occasions in which the work could be done by a cheaper and more easily-raised force.<sup>1</sup>

<sup>1</sup> As a case in point, in South Africa, when we found that our limited cavalry force was totally unable to carry out the excessive work thrown on to it, and was in danger of extinction, it would have been far preferable to have kept it in reserve as *cavalry*, instead of letting it disappear and take up the rôle of mounted infantry. A few cavalry units would have been invaluable at times for charging and pursuing purposes, and they might have been saved if the mounted infantry had been more fully used for reconnaissance work on the lines indicated above.—C.B.M.



On the motion of the CHAIRMAN, a hearty vote of thanks was accorded to General Bethune for his instructive lecture; and a vote of thanks was passed, on the motion of Colonel Lonsdale Hale, to Sir John French for presiding.

The CHAIRMAN (Lieut.-General Sir JOHN D. P. FRENCH, G.C.V.O., K.C.B., K.C.M.G.):—I do not think that any more useful subject could possibly have been brought forward for our consideration than that which has been so ably dealt with by the lecturer this afternoon. The methods to be adopted in the combined action of cavalry and mounted infantry, and the relation which should exist between these two arms has, I believe, been completely and absolutely misunderstood in the past. As time goes on our ideas are no doubt getting clearer, but there is still plenty of room for close examination and discussion. In the past there seems to have been an idea that the two arms must necessarily be antagonistic the one to the other. The most mischievous theories as to their employment and use have been spread broadcast, and spread by men whose practical experience in the handling of either arm gives them no kind of authority to express these opinions. One amateur Centaur would dash the sword and lance entirely out of the cavalryman's hand. Another fanatic ("Beau Sabreur") would throw the horseman's splendid fire-arm to the wind. The fact is, false prophets and theorists have arisen all round us everywhere. The value of cavalry, trained as it is now, is open to no argument whatever, and personally I hold such a high opinion of the value of mounted infantry that we at Aldershot, as Colonel Godley has told you already, mobilise every mounted infantryman in the command every year, to the number of between three and four hundred. The lecturer has had a very great experience of cavalry, infantry, and mounted infantry, and no better answer can be given to the false theories and ideas which have been so freely expressed in the past than in the skilful, temperate, sound, and soldierlike manner in which he has dealt with the whole question. There is only one point I would like him to bring forward more clearly, for I am quite sure he is just as convinced as I am of its importance. Before the brilliant field of enterprise which is open to the cavalry soldier in his rôle as a mounted rifleman can be clearly entered upon, the enemy's cavalry must be absolutely overthrown. Therefore in the training of the cavalry and in its handling in the field, everything must first conduce to the overthrow and defeat of the enemy's cavalry. In dealing with that part of the cavalry which the lecturer destined to throw on the enemy's flanks and rear, he said that they are to "force their way through the opposing cavalry," and so discover the secrets that lie behind. In this remark he shows me clearly that he practically agrees with what I have said; but when he replies to the comments in general I should be glad if he will make that point perhaps a little clearer. I absolutely agree with everything else General Bethune has said; I have no further comment or criticism whatever to make, but I should like to say what great pleasure it has given me to find the lecturer giving such prominence to the necessity for the study of the higher art of war by cavalry soldiers. He tells us that they must be able to read the symptoms which reveal themselves of the hostile arms, visible or semi-visible, in the fog of war; they must be students and thinkers; in fact, strategists of the highest order, and that is no exaggeration. I will go one step further and say that both cavalry and mounted infantry, in the exercise of this most brilliant rôle which can fall to the soldier's lot, must also be possessed of a thoroughly sound knowledge of tactics. When Colonel

Gough referred to what General Bethune said about cavalry moving to a flank, I think what he meant was that that was more of a strategic than a tactical movement; but I am quite sure that what Colonel Gough said was absolutely sound, and that, tactically speaking, the cavalry very often go much too wide; they very often do not remember they have to help and support other arms; they go off a great deal too much on their own; and I think that is a most useful point that Colonel Gough brought forward. When the enemy's cavalry has once been overthrown and is prevented from interfering with their enterprise, a vast field is open to the cavalry and mounted infantry, and to know how to turn their opportunities to the best account they must thoroughly understand the combined action of the three arms on the field of battle. This applies, of course, in a great measure to the cavalry, but more particularly still to the mounted infantry. The lecturer has assigned to them as their first duty the formation of a mobile reserve for the General Officer-in-Chief, who can apply them quickly at any given moment during the fight. I have no doubt that that is really their chief and principal use, and it is unnecessary to lay stress on the necessity for the leader of such a force being possessed of the highest technical efficiency.

Brigadier-General E. C. BETHUNE, C.B., in reply, said:—I should like to make a few remarks with reference to the speeches that have been made since the lecture; but I have already taken up your time so long that I will not detain you many minutes. With regard to what Colonel Gough said about the cavalry moving wide on the flank, I am absolutely with him in every way. If he will carefully think over what I said he will see that I included that point. In talking with him about it before lunch, we were discussing whether it would be advantageous for them to apply their forces in that way, and that, I think, governs the point he mentioned. I think, in my own heart, that, being wide on the flank and far away, the cavalry would have the power, by means of these quick movements, of keeping up the spirit of alarm in several different columns, so that the strategical effect at the moment would be greater than it would be if they were absolutely confining themselves to one particular point; but that is a point where I am open to criticism. I think by being far away they are able to cut in, either on the flank or on the field of battle, or wherever their services can be most usefully applied, and their swiftness of movement lends itself to that. With regard to Colonel Godley's few remarks, it was not I who said that the mules were ignorant. I said the great advantage of the mounted infantry by being mounted on ponies was that they were enabled to perform the duties of infantry, and also at a pinch take on the office of the mounted infantry soldier. I hope he will allow me to apologise for any slight he thinks I may have been guilty of. In reply to Sir Edward Hutton, I would only like to mention this, that I did not say which was the better, the oyster or the bread-and-butter; it is a matter of taste purely. Sir Edward Hutton said more than I, as a cavalry soldier, dared to say in front of a mixed gathering. I absolutely endorse everything he said about shock action, and every word he said afterwards about the action of cavalry and mounted infantry. I approach the remarks of my friend Colonel Hale with a certain amount of diffidence, because I know he is a master of fence and an excellent strategist, while I am only a poor defenceless soldier, in a manner of speaking, although I have my conviction behind me to strengthen me. I am not going to enter into dialectics with him, but I merely wish to mention that when we were talking about cavalry



and mounted infantry I assumed the perfect cavalry. As far as my idea of the perfect cavalry soldier goes, when he has his pioneers with him, with their tools and weapons which they should have with them and the material they carry, they would be perfectly capable of mending any bridge whatever, and we should do away for the moment with the valuable service of the engineers, who might be more of an enemy in other ways than they would be of assistance. With regard to what he said about putting the clock back, of course that is a very much larger question; but I did mention that the mounted infantry could scout for the cavalry at a pinch. I did not like to say "as a *pis aller*," but to take the place of cavalry when they were doing more important duties. I do not think that can be said to be laying too much emphasis on the fact that the mounted infantry ought to be able to perform scouting duties; there I may be wrong. It is a difficult thing to reply to some of these rather close questions, because I speak very generally to-day. The thing would be so rapid. I could have taken hours and hours talking about the subject if I had gone into it more fully, and therefore I have spoken very generally to-day. It is very difficult to answer questions which relate to points which might have been more elaborated in my lecture, and which perhaps I have not the power to elaborate, but which I took it for granted were understood and known to most of you present. But as far as I can gather from what Colonel Mayne said, he entirely agrees with my remark, that it is a question of £ s. d. We want what we cannot get, and we have to do with what we can get, and that is always the history of the British Army all over the world. We want a great deal more cavalry; but unfortunately the Treasury says there is no money, and therefore we cannot have it, so that we must do the best with what we have got. Therefore the mounted infantry in that connection is not only a substitute and help to the cavalry, but an enormous strength to the cavalry, if it is used on the lines on which we have agreed to-day it should be used. With regard to the question of reserving cavalry for crucial moments, I think that is rather a dangerous theory, because we are not all ideal leaders. Some of us may have faults which lead to over-caution, and so on, and if we wrap our cavalry in cotton wool, we are going back to what has been thought for a great many years, namely, that we are too much afraid of wasting our cavalry because it is so expensive and precious that we do not like to use it. If you advance the theory that the cavalry must not be used except on special occasions, the question then rises: "When are we going to have these special occasions?" I would rather say that we are all paid to be killed; we are all paid to go out and fight—that is our job—and I would rather see a few regiments wasted and squandered, theoretically—personally I would say no; but there are cases where I should like to see troops squandered in that way, rather than always keep our cavalry back for certain occasions when they are wanted. There is a translation of a very able article in the last No. of the JOURNAL of this Institution—an article by von Pelet-Narbonne, the well-known German cavalry general, and a recognised authority on all cavalry matters—which says exactly the same thing. The cavalry has been sat upon on field days, until at last they are afraid to act, and if you allow that theory to come in, always keeping the cavalry for the supreme moment, when the supreme moment comes the cavalry will be dismounted and in the rear. With regard to what Sir John French said just now, I am perfectly certain that he will not misunderstand me, and think that I want to miss out any particular point; but what I had to say was really more from the point of view of holding out our hands from the cavalry to the



mounted infantry. I therefore missed out a great many points which might have been more elaborated. There is no doubt about it that the first objective of our cavalry must be the enemy's cavalry. Until we have swept that away and neutralised it, there is no advance possible for the main army. That is the thing we must go for first. After that, if we are lucky enough to do away with the enemy's cavalry, half our work is done, because then we can get on, and the army finds no obstacles to its advance except natural ones. The work is very much easier then than it would be if the cavalry had suffered a reverse, and the army had to face an enterprising cavalry. As regards the question of weapons, I think that the man and the horse is really the weapon, and that whatever weapon you give him, if he can use it properly, is the best weapon he can have. Primarily, the man on his horse mounted is the weapon, and after that you can give him a sword or a lance at will. I have a predilection in favour of the lance.

# THE DEVELOPMENT OF INTERNATIONAL STRATEGY SINCE 1871 AND ITS PRESENT CONDITIONS.

*By T. MILLER MAGUIRE, M.A., LL.D., of the Inner Temple,  
Barrister-at-Law.*

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Wednesday, 29th November, 1905.

Major-General R. S. S. BADEN-POWELL, C.B., in the Chair.

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[This lecture was delivered extempore, and illustrated by large wall maps.]

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IN March, 1904, at a meeting in this building, we had occasion to discuss as the subject for a lecture "The New Pacific," and it was my duty, at the request of the Council, to set forth the revived and greatly enhanced importance of that Ocean. At the close of the meeting, Lord Roberts, who presided, put the weight of his authority on our side and pointed out that, beyond any doubt, the centre of gravity of the world of commerce and of international strategy was about to shift from the Atlantic to the Pacific. Although Japan had then just started on its career of glory, we little thought—no one in Europe thought—what a remarkable development was about to occur. There was no indication that the Japanese Islanders would, by their naval exploits, rival the exploits of the British Islanders a hundred years ago. It did not seem probable to any one that the greatest military power of Europe, a power that had extended itself, accompanied by tremendous forces, from the Caucasus at the close of the Crimean War in 1856, to Port Arthur in 1898, should be not only defeated at sea, but also thoroughly defeated on land, in spite of the desperate heroism of its troops, under the influence of the hereditary tenacity of its race, and should be driven not only clean out of the Korean Peninsula, which might have been expected if the enemy gained sea power, but also out of Manchuria, and that for the first time since the Turks passed into Europe in the middle of the 15th century, a definite and distinct repulse should have been endured by the biggest part of Europe at the hands of Asia. This surprising fact is a matter of strategic international significance which cannot be overlooked. The result has been to affect the careers of every person in this room. Whether we continue to have an alliance with Japan or whether we have not, one thing is perfectly clear, that the relations of Europe and Asia have changed, for our time at any rate, and that, from a commercial as well as a strategic and inter-

national point of view, portentous events are in store for us all. This consideration alone would justify a lecture on the subject before us.

But other startling events occurred exactly about the same time. I say that our prediction in March, 1904, would have been absolutely verified, and predictions worked out in detail in that splendid book of Bancroft's, "The New Pacific," if nothing had occurred except what has taken place between Japan and Russia. The centre of strategic gravity has been transferred from the Atlantic to the Pacific, as it had been previously transferred from the Mediterranean to the Atlantic. But another incident, I think almost more significant, has occurred; that is to say, the assertion of themselves as a world power by the United States of America, and this clearly and almost defiantly. Here we have a power which apparently acted only in the interests of peace, coming and laying down not only the Monroe doctrine, that none of the European Powers are to expand any further into the vast American continent, north or south, but that practically no European Power is to come within 2,000 miles of America, for fear, within even that long range, the equanimity of the people in the United States might be disturbed. Here we have the President of the United States definitely asserting that his nation is to control what Captain Mahan calls the centre of international gravity, the centre of commerce and trade, the West Indian Islands, the Caribbean Sea, by the Panama Canal. He holds that the Panama Canal must be made as quickly as possible, and that the United States are to control it, and that they will punish anyone who dares to interfere with their policy. They propose to create a powerful navy, a navy which they can make powerful beyond precedent, owing to their unparalleled wealth and population, and assert this navy is to be supported, if need be, by a very powerful army, to control the link between the Atlantic and the Pacific in the interests of the United States for evermore. That is a very important condition in the position of international strategy. (See quotations in the Appendix.)

Now there are new strategic considerations. There is the *entente cordiale* with France on the one side and the alliance with Japan on the other. I do not propose, in regard to these matters, to say a word of my own, because they are delicate matters, and I might easily be led into trouble by the tongue, which is an unruly member, and, as you know, I am a man of peace. But I should like to read to you what some other people say on these matters, and I will take the views of the German Emperor, and the views of Mr. Roosevelt, the President of the United States, and the views of the French Press, in regard to some of them. A very plain-spoken and able work has been recently published by a Captain Sorb, of the French Navy,<sup>1</sup> and he, in discussing the *entente cordiale*, gives us definitely to understand that, in the opinion of a great number of Frenchmen, it is a thing to be reprobated, and they lay it down that it is a mere piece of hysteria. They say that a nation's policy was never definitely controlled by any such method, and that if the French were wise they would devote themselves to getting out of the Mediterranean,

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<sup>1</sup> "Quittons la Méditerranée et la Mer de Chine." R. Chapelot et Cie., 36, Rue Dauphine, Paris, 1905.



to securing control as far as they possibly can of the Atlantic, and to aim at Ocean Power, the want of which at the time of Fashoda was so disastrous, and, if necessary, they should make an alliance with Germany with the object of crushing England in the future. You can get this book in the Library of this Institution. I really must not quote some of its advanced theories here, but in French military and civil journals of high repute similar views are clearly set forth, that they consider the *entente cordiale* as a thing that must be broken; that it is not of the slightest use to France, and is generally in the interests of England; and that the future of France is safer with an alliance with Germany than with England. They contend that it would be absolutely foolish, in shaping their policy, to be guided by the Triplice, by fears of the German, Austrian, and Italian alliance, an anachronism, as is also the Revanche. They contend that the new posture of affairs, since the fall of Spain and of Russia, demands new international combinations to cope with new strategic conditions. They contend that their true policy now is to prepare to ignore the *entente cordiale*.

All the lessons we have had, and all the discussion we have had about the combinations on the Eastern and Western frontiers of Germany, as to Russia and France *versus* Germany and Austria-Hungary, which have been leading topics of discussion in every strategy class-room in Europe for twenty-five years, are to go for nothing, and discussions as to the relations of Italy with this Triple Alliance are vanity, according to the new school. Germany gains much freedom by the present collapse of Russia, and Italy is not required they say. It is a pity, having regard to Italian finance, that this doctrine could not have been preached for the past fifteen years. French writers say, let us drop the Mediterranean, the Mediterranean is only a snare, relating only to dealings with Turkey or Italy and Egypt; let us ignore the frontiers of the Triple Alliance, and let us devote ourselves to becoming strong at sea in order to cope with Japan if need be, with England if need be, with the United States if need be. They consider these three Powers to be the real danger in the future, to the stability and commerce of the European Powers. Indeed, many German authorities entertain the very gravest suspicions of the United States, which they fear more than France.

I have not the smallest prejudice one way or the other, nor have you in this hall. We are not here to discuss what is the proper strategy, but only to discuss the modifications that have occurred in the strategic position since 1871, and to consider certain present conditions of strategy. Therefore, we cannot commit ourselves to one particular view or take any sides, or be influenced by our own susceptibilities at present. I must not be a partisan of France, or Germany, or Japan, or any other State or combination of States. One result of recent development is, that all the problems which a few years ago were discussed at Woolwich and Camberley in lectures, and which were the foundations of the strategic geography of Europe, are now of secondary interest, Japan being victorious, and the United States laying down the doctrine about the Panama Canal and the West Indian Islands to which I refer, and Russia, which was one of the two Powers that threatened to hover over Germany from Warsaw, while France advanced across to the Rhine, having collapsed for the time being. Away from Central Europe and across the seas Strategy has taken its flight—and its developments

depend on strong and ambitious and able unconventional men in Washington and Tokio.

I have referred to the French views, I have them all here; but it would be tedious to translate them. We have Captain Charrier here; he is a great authority on the French views in these discussions, and I hope he will get up presently and tell us something about them. I do not want him to commit himself in the slightest degree, but he might tell us whether or not it is the case that I have fairly represented the views of a very considerable number of eminent and well-informed Frenchmen about the *entente cordiale*. That is all.

It is not ancient history or antedeluvian policy that I am about to put to you next. Here is a speech of the German Emperor on foreign affairs, published in to-day's *Times*, a very clever speech, nothing offensive in it, but when you read between the lines you should begin to reflect, "perpend I prithee." When Emperors or American Presidents begin talk about humanitarianism, and courtesy in international relations, you should hearken to the voice of the spirit of Cromwell: "Fear God, but keep your powder dry." The German Emperor says: "I accompany the entrance of Japan into the ranks of the great powers with sincere wishes on behalf of the pacific mission of this highly gifted people, in the interests of civilisation. My liveliest sympathies are bestowed upon the exertions which the friendly neighbouring Russian Empire is making with the object of effecting a new arrangement of its domestic affairs." Nothing could be fairer than these sentiments. He loves the two of them; but like Captain Macheath, in the "Beggar's Opera," I fancy he would say: "How happy could I be with either were t'other dear charmer away." The German Emperor goes on to say: "I must take a glance at Germany's own international position, which cannot fail to involve the recognition of the fact that we continue to have to reckon with a considerable amount of misconception of German ideals, and prejudices against the progress achieved by German industry. The difficulties which had arisen between us and France in the Morocco question had no other source than an inclination to settle, without our co-operation, affairs in which the German Empire has also interests to maintain." He then goes on to say that the signs of the times make it the duty of the German nation to strengthen its defences against unjust attacks. But no nation ever considered that any attack on itself was just, or any of its own operations unjust. "Orthodoxy is my doxy, heterodoxy is your doxy." So that the speech amounts to strengthening the defences of the nation against any attack, just or unjust. That is what it means, and it is another significant statement.

Therefore, we have had one definite statement from France, another from the President of the United States, and another from Germany. Now let us take what the interpreters of the German Emperor think he meant by his statements. We will take a civilian of eminence and a soldier of eminence, and we will refer to International Law. But do not be deceived by International Law. From a practical point of view no greater rubbish was ever studied by any human being than International Law. I am a victim of International Law myself in a small way, and I see another victim to it sitting in front of me, Judge Rentoul. The learned judge and myself spent



much money, much midnight oil, and much time studying International Law, and when we had bought scores of books, new and old, from Grotius to Wheaton and Historicus, and learned them off by heart, and got our prizes, we found that much of what we had learnt was simply delusion — mere phrases; syllogisms of impotence. International Law at sea is merely the will of the most powerful maritime State at a given moment. Our International Law against the Armed Neutrality meant that we knocked the Danes into pieces at Copenhagen, and we were about to knock the Russians into pieces at St. Petersburg, under the guidance of that admirable exponent of international sanctions, Nelson, only that the Russians assassinated their Czar to save Nelson the trouble of a bombardment, 1801. We have heard what the German Emperor thinks about International Law. He has the same esteem for it as Celts like Rob Roy Macgregor and myself. Now let us take Professor Wagner, a well-known lecturer on Political Economy at the Berlin University. He is as full of discords as was his namesake, the musician. He said: "British hatred of Germany is solely due to jealousy. Germany must have a strong fleet to guarantee its independence, and the German workmen must remember that if Germany be defeated, the German workmen suffer most." There are plenty of people, he said, who wish Germany to be defeated. He would prefer to be in time and defeat them. That is what Professor Wagner says. We can say that there are plenty of people who wish England to be defeated also. There are people in high places, journalists and others, who are doing the best they can to bring this state of things about. Does anybody believe Professor Wagner of Berlin speaking on 24th November, 1905?

As to the Emperor's speech hear some German comments:—

A number of journals call attention to the distinction which the Imperial speech makes between Powers with whom Germany is on terms of "correct" relations, and Powers with whom her relations are "good and friendly." One expositor of the speech observes that "those Powers or that Power with whom—singular or plural—we do not enjoy 'good and friendly relations' must now realise that we are not arming in order to make, but in order to meet, an attack."

The *National-Zeitung* finds that "the speech declares plainly and distinctly to the whole world that we are under no delusion as to the source of all these endeavours to leave us out of account and to set us back. Their source is envy, excited by the success of Germany in peaceful competition in the markets of the world."

Of course, by British, Professor Wagner meant to include Scotch and Irish as English. I need not read any more. These are important pronouncements, and I could go on with many similar pronouncements. It is perfectly clear there is an enormous amount of theory at any rate, calculated to shake our confidence in either alliances or the law of nations.

We, as 40,000,000 people having control of 360,000,000 of the human race, must see that the result of these speeches be not to our detriment if we can possibly prevent it. I think I may go as far as that without committing myself to any excessive statement. I hope I will not be called a Jingo in the coming discussion because I believe it to be the duty of British Statesmen to watch day and night over British interests.



There is another side of the picture, and that is the views of the Japanese. The Japanese have won, the Japanese feel sore—I do not see any Japanese gentlemen here—and one of the reasons they feel sore is, the use of the phrase “Yellow race,” and the depreciation of their race which it most unfairly implies. No man likes to be flattered to his face, and therefore, you would not care very much for people going about and calling you “white,” even if they are going to do something good for you, and to embrace you; *a fortiori*, Japanese cannot feel strongly elated by a large proportion of civilised people going about calling them yellow, and not only calling them yellow, but beating or maltreating, keeping them out of this locality and that locality, or making violent laws against men merely for being yellow. Every insult to the yellow Chinese is an insult to Japanese. Suyematsu, a most distinguished gentleman, a scholar of the highest type, a true patriot, a gentleman extremely like the knight portrayed by Chaucer:

“Sounding in moral manere was his speech,  
And gladly wolde he learn and gladly teach,”

has written a splendid work, and I have his book here. He gives you distinct warning that you had better conduct yourselves a little more civilly for the future, you people who have not the privilege of belonging to the yellow race. He warns Europeans going to the East to be more courteous and considerate to Eastern races for the future, or the Japanese may feel bound to teach them manners, and I believe he is quite right. Insulting treatment of Asiatics has always seemed to me not only ill-breeding, but also dangerous policy.

But see the consequences of success in war in international relations which is my immediate topic. I ask you, would any member of a “yellow” race have written in English a book like the “Risen Sun,” and circulated it, and, indeed, been so kind as to send a copy to your lecturer of this afternoon just in time, in the year 1860, or in the year 1865 or 1880? Do you think any “yellow” man could have circulated that book immediately after that most infamous and dastardly proceeding, the last sack of Peking by the Western European Powers, that fell outrage to civilisation, and abominable outrage on mankind? Not at all. But why is it circulated now? Because the Japanese have won in the campaign against Russia and can now afford to assert their dignity before all mankind, none daring to either insult or frighten them. Verily a successful war doth elevate a race. I beg my audience to study the “Risen Sun.” He is not educated who has not read it. It will do the ladies no harm either, if they read it, especially if they read the poems by the Emperor of Japan, and the lessons with regard to the future of the race, which, I am sorry to say, many English ladies are not in the habit of observing; but in the hands of women is the future of every race. Their family relations and fitness for duty are “the chords of men.” Suyematsu tells you that people going out East will be wise to give up the “old habit” of “giving themselves too many airs.” He speaks about religion. In Europe, he says, we have only 370,000,000 of people, whereas the English in India govern 222,000,000, and the Chinese have 410,000,000, and amongst the 370,000,000 Europeans the religions are not “necessarily identical.” “Besides,” he says, “deeds are more important than words.” That

is exactly what old Spenser<sup>1</sup> said, "he never thought, with words, but deeds, to prove the right." The ethical notions of the Japanese may be defective in many ways, "but in many ways the Japanese practice conforms to the rules which it behoves anyone belonging to any religion to obey." That is a challenge for the people of Western Europe coming from the people of the Far East. But he gives you other lessons—lessons of dread import. Handwriting on the wall of your abodes of luxury. Hearken in time. It will soon be too late. You will not find sounder precepts of wisdom in Solon, in Socrates, in Thucydides, Tacitus, whom I quote in the appendix, or in Ruskin, who says he would much prefer to "sculpture a man with a sword by his side in Westminster Abbey than to sculpture a man with a ball at his toe, or a bat in his hand."

I say that the decay of our people is imminent unless you take warning.

The foundations of your strategy and of your national life depend upon the moral and physical state of your leaders or richer classes, who ought to lead, and who must lead. "Those who think must govern those who toil," and, moreover, if you don't look very sharp, the state of your masses will soon be your ruin. I see them night after night in my wanderings for the study of Sociology, wanderings that have taken me into slum after slum, and worse, into abysms of human misery and turpitude.

Their condition has become deplorable to the last degree. There are long square miles of miserable tenements for even the well employed, all gloom except the public house. The leading people, the richer people, are becoming mere worthless ball players, ignorant, selfish, idling degenerates, as Lord Kingsburgh said in this hall, wasting their time instead of preparing for the developments that are inevitable; as for the poorer (alas, I have no words to censure their neglect by the rich), the absolute and comparative decay into which they drift saddens our souls.

Now, listen to Baron Suyematsu: "In the West there are vast numbers of people who are very rich; there are also a vast number of big buildings; but they do not imply that European society is perfect. One can easily see that the majority of the western people have a very small share indeed in whatever enjoyment is derived from inhabiting these dwellings." He challenges you. He practically says "we are superior to you, all of you, rich and poor; we have souls, and we do not trifle with our children; we have beaten Russia, and we are beating you in more important matters, matters on which success by the sword depends. We do not ignore our poor. Our richer folk study in youth and middle age."

I have quoted to you a large number of different authorities with the object of proving to you that whether you study the philosophy of Germany or France, or the military literature of Germany or France, or whether you study the tone or temper of the great Republic in the Far West, or whether you study the tone or temper of the ancient Monarchy in the Far East, you must be prepared for serious developments, from taking a part in which you cannot escape, and

<sup>1</sup> The resemblance between the lofty sentiments of Suyematsu and his imageries, and those of our grand poets, Chaucer, Spenser, and Milton, ignored by clerical schoolmasters, is very remarkable.



in which if you do not take a leading part, you will be ruined in material resources as well as in honour. The necessity for some careful study of the general principles of strategy will be soon apparent if your memory takes you back to what has occurred since 1871.

In the year 1862, stupendous battles raged along the Chickahominy and the Rappahannock. In these battles the Federal forces were thoroughly defeated again and again. General Burnside hurled thousands of men to slaughter against Longstreet and Jackson, from the slopes of Fredericksburg and across the river Rappahannock. Next year, in the battle in which Jackson met his death, the Federals were again completely defeated. The Federals had been beaten\* at Winchester, in the Shenandoah Valley, and in the York Town Peninsula. The correspondent of the *Times* wrote back: "I have witnessed the death of a nation." All the upper classes of England were practically cheering over the dissolution of the great American Republic. Not that they desired to see any harm happen to the American people, but they thought perhaps a defeat would be for their good; would make them more complacent, and give them humility. Certain politicians were openly countenancing the South. What was the result? The United States were not dead, were not anything like dead. War is not "a disease," although it may be called a disease at the Mansion House or elsewhere. A man who says war is a disease knows nothing whatever about the history of humanity. You may as well call jurisprudence a disease, or surgery a disease; or the institution of police forces in London and Dublin a disease. It is not a disease, but it is a preventive of decay. No nation ever yet perished by cultivating the arts of war. Here is Marsh's "Earth modified by Human Action," in which he goes into every cause of national and physical decay, and says that not one State can be found that ever owed its ruin to the art of war.<sup>1</sup> Many States can be found that owed their ruin to luxury and sensuality; Tacitus would tell you that, Euripides would tell you that.<sup>2</sup> The United States, far from being ruined, continued fighting for two years after Fredericksburg, renewed their youth like eagles by this war, and started on a career of unexampled greatness and prosperity. It is true they buried 300,000 of their soldiers in the national cemeteries in a few years; it is true they lost a thousand millions of our money; but they became a great nation. They would have sunk into luxury but for the war. The United States (dying, according to our critics in 1862), through practice in the arts of war, and through that only—because it was just as wealthy in regard to materials and energy, and the earning power of its inhabitants—alleged to be dying through the art of war, and through that only, were able to defy England a few years after and insist on the award at Geneva in regard to the cruiser "Alabama," which, with an English crew and English equipment, went about destroying American shipping. The same United States boldly challenged Europe in 1898, in the case of Spain. Spain was theoretically backed up by a large part of Europe, but an American, Admiral Dewey, was able to defy a German Admiral; the United States took Cuba, took the Philippines, and took Guam and Hawaii, and now, by San

<sup>1</sup> See Appendix.

<sup>2</sup> See Appendix.



Francisco, by Hawaii, they are stretching across the Pacific into the Far East.

Critics, writing essays based on what they wished instead of on what they knew, asserted that certain ruin would happen to the United States; these criticisms were published in the Press and were believed. People believe that prosperity discovers virtue. Prosperity discovers vice. Money is not and never was the sinews of war, which depends on the hearts and arms of men. It is adversity that discovers virtue. The adversity of war discovered the virtue of the United States. The United States have since played a prominent part in the counsels of the world, and what Power in Europe to-day would dare to contradict the United States, as to either the Monroe doctrine or the Panama Canal?<sup>1</sup>

So much for the prophets, the wiseacres, in regard to the United States.

Now we come back to Europe. We have spoken about Japan, and I need not repeat myself; we have spoken about the United States. We come to Germany, and then we shall go to Russia.

How dangerous it is to prophesy may be shown again by an incident—perhaps now forgotten—which occurred shortly before the outbreak of the war between France and Germany in 1870. The Foreign Secretary of the day came down to the House of Lords, and less than a month before the outbreak of war between France and Germany in 1870, calmly assured our public and our financiers that there was not “one single cloud on the political horizon.” Within three weeks of this optimistic statement by, after the Premier, the most important member of the Government, that great war, which, among other dramatic results, altered the whole political face of Europe, broke out—a war in which brain power at its altitude was for the first time thoroughly displayed since the days of Napoleon, when he intended to invade England, but, owing to our naval power, went East over the Rhine, and along the Danube, and destroyed Austria. There was brain power at its altitude on the part of the German General Staff, and the organisation and the mobilisation arrangements, equal in many respects to that exhibited and utilised by Napoleon: in point of fact, something that reminds us of those stupendous movements of population that are described by Herodotus, or those still more stupendous operations, the great invasions of Zenghis Khan or Tamerlane, spreading over Asia through Mongolia to Peking. This speech of the Foreign Secretary to whom I have referred, was delivered a month before the following events began:—Eleven days after the declaration of war, 19th July, 1870, the Germans poured 500,000 infantry, 50,000 cavalry, and 1,400 guns across the French frontier, fought two battles on the 6th August, shut up Bazaine in Metz, after Gravelotte, 18th August, took 83,000 French prisoners on the 1st September at Sedan, and were around Paris on the 19th of September.

After Sedan, and the fall of the Empire, Paris was invested, the people starved, and France lost £260,000,000 of our money in Indemnities alone, and the results of the war were at the bottom of all the leading conditions of European policy which have existed ever since. There was a change in the strategical aspect in the twinkling of an eye. The fall of the Third Empire at Sedan was followed by

<sup>1</sup> See Appendix.

an ultimatum from the Russians that they intended to tear up a Treaty—the Treaty of Paris of 1856. The Russians were quite right. Treaties are made to be broken and torn up, and the Russians, to give them credit, have always been admirable professors of the art of tearing up Treaties. They announced that they were tired of the Treaty of Paris; it suited them no more. Our Ambassador went to Prince Bismarck declaring that no nation, with any sense of honour, could ever stand such trickery. Bismarck replied: “What are you going to do? France is engaged and cannot help you.” But a few days afterwards our Ambassador had to return and inform Bismarck: “We are going to do nothing; Russia has torn it up, and there is an end of it.”

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The steady advance of Russia in Central Asia since 1870 is also worthy of note. It was inevitable, the Russian hands in Central Asia were forced as ours have been in India time and again, and this ought to have been foreseen by our Statesmen. It was not, and the undignified bickering with Russia which ensued was not creditable to our diplomacy.

Russia went into Khiva in 1873, and ever since she has been pushing on from Khiva to the gates of India. An idea seems to be abroad now that one of the *contre coups* of the present extraordinary political situation in the East may be a Russian attack on India. I do not say so, but Mr. Balfour has made speeches in this sense.

Russia, of course, has now very serious troubles at home, as France had in 1793-5, and again 1871; and as England had in 1642-1689 and 1797. But nations don't perish after civil or any other wars. If they can only get rid of base rulers, shuffling politicians, luxury, vice, and waste in high places, they will soon recover.

Our politicians profess to be afraid of Russia's advance from the Caspian Sea, through Orenburg, Khiva, Merv, Samarkand, Tashkend, to Termez and Khushk Post, and then to Kabul and Kandahar. I point out all these strategic localities on the map of Asia. A map is an instrument of education; even ladies can obtain the utmost possible benefit by teaching their children something on a map. Here you have the great North-West Frontier of India; Tamerlane took 93,000 cavalry over these places. Rightly or wrongly, our leading strategic politicians seem to think that there is a danger in Russia getting too near India, and that it may cost you much money and severe strain, that you want some hundreds of thousands of men, and that it would be a very good thing for us at present if the Russians had not been so near as Termez and Khushk Post. Now, some thirty-five years ago a number of able travellers, Burnaby, O'Donovan, and others, travelled through Central Asia and studied the whole question thoroughly after the capture of Khiva. They saw the whole future; but the English Government would not see it. The Ameer of Afghanistan saw it clearly; he saw his territory was in some danger, and he hoped the English would do something to ward off all this danger. All our politicians received warnings year after year, clearly and distinctly, of the advance of Russia. The matter was before our Cabinet, and the Duke of Argyll was a Minister of the Cabinet. The Duke of Argyll was supposed to be a pre-eminently subtle Scot, a very excellent man, and a writer on philosophy; however, though metaphysics and diplomacy may be



nearly identical, metaphysics and strategy are opposite kind of things altogether. One is mere subtlety without force; the other is subtlety with force, which is a very different matter. I was a very young boy, but I remember reading a colossal book by the Duke of Argyll, a book that proved beyond all possibility of doubt that the Russians could by no conceivable process move from Khiva to Merv, 300 miles, in less than seventy years. I was amazed, boy as I was, because I had read of Alexander the Great traversing right through Asia Minor on to Egypt, and right across the great Continent to the Jaxartes and Chitral, down the Indus, and back again, and he did the whole journey of conquest in thirteen years from his start from Thrace. Yet we were told by the Duke of Argyll that the Russians could by no possibility get into Merv for goodness knows how long. That was in 1878. The Russians were in Merv in 1884, and in the lifetime of the writer of the book in question.

The third part of the subject is to try and outline the causes of the striking fact that in no particular is the international strategy of the present or future analogous with what it was in the years 1870 and 1871. I am afraid I am nearing my limit of time, but this is a matter that really ought to be taught to our people on every platform. We do not do as well as we might with our resources; we do not face facts; we do not recognise the truth; we are losing our backbone. It is all very well to attack the Russians. The Russians in my opinion have done splendidly. I wish I had time to quote from a book which is the corellative of Baron Suyematsu's. These are two epoch-making books, "The Risen Sun" and "The War in the Far East," by the military correspondent of the *Times*, a most admirable book. On pages 610 and 611 you will find weighty statements about the Russians and their splendid though badly managed soldiering. I was talking to a German strategist, and I said: "Do you think the Russians did badly in this war as against Japan?" admitting, of course, as we all do, that Japan did marvelously well, beyond all expectations—probably beyond the Germans themselves in 1870. No one expected the Germans would do so well then, and we did not expect Japan to do so well last year. The German officer in question, who knows all about the facts, and knows all European Armies very well, replied to my question: "Would you Germans have done as well against the Japanese as the Russians have done?" He said: "We would not dare to attack the Japanese in battle except in the proportion of three to two at the very minimum." I further asked him: "Am I right in saying that the Russians, as against the Japanese, did better than the three following races: Did they or did they not do better than the Federals in 1862 and 1863?" "Of course they did," he said, "much better." Well, we know that; the battles were fiercer, and the disasters were not so complete. Then I asked him: "Did they do better than the Austrians against yourselves in 1866?" Well, I might have known in advance the answer to that query: "Of course they did, infinitely better." Then I ventured to ask another question: "Did they do better than France against you in 1870 and 1871?" And he said: "Certainly." He was not carping at France in the least; nor am I, yet Russia did very much better, and for a much longer period. Now another warning. Why on earth were some of our Press, and some of our people, constantly nagging at the Russians during this



war? I could never sympathise with that policy. It is not the proper thing for the representatives of a great people to rejoice in the misery of any other people. It is not a sign of greatness to hooray and rejoice at the fall of any nation. It looks rather like poltroonery. But the Russians in point of fact had no Sedan, and yet the French were a great nation. Nor had the Russians disasters such as the Federal States of America endured, nor did they collapse in seven weeks like the Austrians.

Now to come to ourselves. It is generally believed that all the troubles in the Far East have been in a great measure due to our own official weakness, vacillation, and incompetence, 1897 to 1902. At any rate, Beveridge, Krausse and Weale are of this opinion. Are we ready to look after the interests which our French critic, Sorb, points out as the objects to be attacked? He says that the English are only keeping their Empire up by making a Treaty with this State and with that State, and by hoping that Japan will save India, and hoping France will let us alone. Is that true? Are the gentlemen in this room desirous that Japan should save India?

“In native arms and native ranks  
The only hope of courage dwells.”

Alliances are useful, undoubtedly. He is a fool who would say to the contrary, but the only person that can save a man's honour is the man himself, and the only instrument that ever saved a nation was the strong right arm of its people. It is not the Japanese who will save India; it is not the Himalayas that will save India; it is not wealth that will save India; it is not official intrigues which will save India; it is not the natives of India that will save India, because they are not an organised mass, and have not been welded together in one community for many centuries. What will save India? The present race of British men and women, and their children, and no one else.

There are tens of millions of prosperous peasants whose hoardings make of India the grand absorbent of the precious metals; tens of millions of peasants, beside whose poverty Fellahs or Sicilians or Connaught men are rich; millions of artisans ranging from the men who build palaces to the men who, nearly naked and almost without tools, do the humblest work of the potter. Every occupation which exists in Europe also exists in India. The industry of the vast continent never ceases, for India, with all her teeming multitudes, with a population in places packed beyond European precedent, imports nothing either to eat or drink, and but for the Europeans, would import nothing whatever. She is sufficient to herself for everything save silver. Amidst these varied masses, these two hundred and fifty millions, whose mere descriptions would fill volumes, the tide of life flows as vigorously as in Europe. There is as much labour, as much contention, as much ambition, as much crime, as much variety of careers, hopes, fears, and hatreds. It is still possible to a moneyless Indian to become Vizier of a dynasty older than history, or Finance Minister of a new Prince, whose personal fortune in hard cash is double that of the late Emperor William, or abbot of a monastery richer than Glastonbury ever was, owner of an estate

that covers a county, head of a firm whose transactions may vie with those of the Barings or Bleichroders. One man, Jutee Pershad by name, fed and transported the army which conquered the Punjab.

Well, see in imagination a Europe even fuller of people, but only full of brown men, and then see also this. Above this inconceivable mass of humanity, governing all, protecting all, taxing all, rises what we call here "the Empire," a corporation of less than fifteen hundred men, part chosen by examination, part by co-optation, who are set to govern, and who protect themselves in governing by finding pay for a minute white garrison of 65,000 men, one-fifth of the Roman legions—though the masses to be controlled are double the subjects of Rome—less than the Army of Sweden, or Belgium, or Holland. That corporation and that garrison constitute the "Indian Empire."

There is nothing else. Banish those fifteen hundred men in black, defeat that splendid garrison in red, and the Empire has ended, the structure disappears, and brown India emerges unchanged and unchangeable.<sup>1</sup>

I quote from "Asia and Europe," by Mr. Townsend, who sets forth the philosophy of these questions with sage profundity. What is the safeguard of the British Empire in India? Is it the Himalayas or the Hindu Khush, or the Throne of Solomon, the Indus or the Ganges? Certainly not. No mountain ever yet saved a nation from invasion, or the Pyrenees would have done so, or the Alps would have done so. Did the Alps save Rome? They only enabled the Barbarians to surprise the Roman Empire all the more safely. What is the British Empire in India then? A certain limited number of civilians, and a certain limited number of British soldiers—that is the British Empire in India. What is the German Fatherland? Not the Rhine, or the Elbe, or the Oder, as the song says—not Bavaria or Prussia. The German Fatherland is the heart and brain and body of the German. Consequently, your only hope for any strategic movement is in yourselves.

I wish to set forth clearly and shortly—I have done so before, but this Institution wishes me to do so again—that no single part of the Empire, of which you are to-day members, from a strategic point of view, occupies the same position as did the Empire of which your fathers were members in the years 1870-71.

In the first place, you have practically got the carrying trade of the world, and consequently, as every gallant admiral here will tell you, must insure more heavily to protect it absolutely, though not in proportion to its value, like the owners of any other property. Then you were not only, as Captain Mahan says, a naval Power, but *the* naval Power. When the French Marines were taken prisoners at Sedan, when the French gunners of the Navy were dispersed in the fortresses round Paris, the Germans having no Navy, and the Russians having practically no Navy, you were not only a naval Power but *the* naval Power. I read to you at the beginning of this lecture, data which enabled you to see whether you are the greatest naval Power, as I honestly hope you are, and I am not going to discuss this point. I only say there are other Powers that propose to be naval Powers, and there are three who are not to be ignored even now. The French think they are a naval Power, so do the Americans, and the Germans

<sup>1</sup> See "Asia and Europe." By Meredith Townsend. Pp. 84, 85.



hope they will be the fourth, and recognise that their future is at sea—and hence their occupation of Kiao Chau, and their strenuous efforts to develop its potentialities. There are the United States, Japan, and France, which is better, according to French authorities, than we think, and probably Germany. So that whereas at the beginning of our period we were *the* only naval Power, now there are actually some others of great strength, and there are the probabilities of more coming on. Is not this a matter that ought to make you reflect and think it more desirable to train yourselves for arms instead of hiring condottieri to play games of ball for you? Your ancestors conquered France by practice of archery, not by playing ball, much less by looking at others playing ball for money.

There was another thing in 1870. I cannot remember the facts of that date, so I speak subject to correction, when I point out that in the year 1870-71 we were not conterminous with any other great Power except the United States. It is quite true our Empire had frequent military expeditions on the frontiers, frontier wars and small wars, and we had a serious struggle in Afghanistan, and a war in Abyssinia. By the way, Abyssinia is in a very different position now; even Abyssinia has changed enormously. As you will see in the papers of yesterday, with regard to railway questions and treaties with France and England, Menelik is a very different person from Theodore. But we were conterminous only with savage or semi-civilised States. Our frontiers were, therefore, not like the frontiers of Germany, France, and Russia, liable to be invaded suddenly by military Powers, led by the best military brains of the time. This has been said very frequently, but it bears repetition. You have the maps of the Navy League in your hands, and you will see we touch France on the Mekong; you will see that Germany practically makes a strategic movement against the flank of our Cape to Cairo Railway in Africa; you will see we touch the German Demara and Namaqualand, but that does not make much difference just now, as the Hereros and Hottentots are mobile operators on strategic fronts in these localities. Russia is very near at Termez and at Khush, and on the Pamirs. Then there is the United States, which, since 1870, has become a tremendous Power. Therefore, we are in a different position altogether from what we were in 1810, 1854, or 1871. These are ordinary everyday facts to most of the officers in this room, but then we are not governed by officers. We are not even governed by lawyers—not altogether—and that is a very good thing, but both these professions are composed of men of energy and ability, and accustomed to observe and command, and to weigh evidence. We are governed by the mass of the people and in every country, as Mr. Burke says, and as the author I have quoted says about Asia; even in Asia the despot is as much under the control of the mass of the people for his means of existence, and the continuation of his power, as is a President in a democracy. We are governed at present, and were, for the past generation, by blind leaders of the blind. We see in Russia to-day what state of things arises from such guidance, and we have been even worse led relatively since 1871 than the Russians. Talleyrand defined Russia's power as an absolutism, tempered by assassination. The mass of the people in every land are not the people who are rich, and have time to think, and read, and work if they will; the mass of the people are those who toil, and it is they who, in the last resource, have to be consulted in our nation. There-



fore, in a country with votes and politicians and vote catchers, you want to educate the people, and to begin with Members of Parliament; to do that you must certainly procure and circulate maps such as those which the Navy League has allowed me to give out to-day, and subscribe to Army Leagues and Navy Leagues, and National Defence Leagues. If bad party charlatans combine, so must good patriots combine, and clearly show the voters that they are perfectly inane if they think we shall get out of these tremendous complications which I have only had time feebly to indicate, rather than describe, without self-sacrifice. Hence you must teach them and set examples yourselves, of being true to themselves, their women, and their children, and of "screwing their courage to the sticking place," in the interests of that Empire on whose prosperity they all depend for their daily bread.

If you do not be wise in time as to housing questions, race questions, national education and military training, you will assuredly lose your position in one generation. Party-bound voters think that war is far away. Not at all. It is always within touch of you. It may be touching you in a territory, the loss of which would paralyse every home in England. Is a man in the room going to get up and say that the loss of India would not paralyse the home life of our people, morally and financially? I hope someone will do so; if he does, we will have an exciting discussion, and a war of words is better than no fight at all. The gallant Admiral I see agrees with me, and he has been in the Far East and I have not. But I have been in Stamboul, and I have consulted, for the purposes of this lecture, very able Frenchmen, Germans, Huns, Poles, Russians, Spaniards, and Turks, and strange to say, each and all depreciated the English and say they are perfidious to the last degree. So that you will not live on the admiration of foreigners. Any neglect, or any trimming, or any party trickery as to India, on the part of our rulers, will be a deadly outrage to the British Race.

The future of India is of vital importance, not only to our fighting man, but to our taxpayers, and it touches our honour, without which a Race is nothing at all—mere *Canaille*. One of the best features in the books of the Japanese is the one that dwells on the fact that a man is not only of the earth, but that he has a soul—let him cultivate honour. Let us shake off the earthly form and weeds of Thyrsis:—

"The soul that rises in us; our life's star,  
Hath had elsewhere its setting,  
It cometh from afar."

Successful strategy, in the future as in the past, will depend, like all human greatness, on the qualities of the Race, especially in the brain and on the soul. You must eliminate slum life and slum thought from the poor, and "week end" life and "week end" thought from the rich. Irradiate your souls, men and women together, with a new pleasure—the sacred passion and lasting pleasure of Patriotism, which will grow with your growth, and strengthen with your strength, and not decay with old age.

Again, there is another serious problem that was not of such imminent peril in the year 1870-71. As years pass we are more and

more dependent on territories outside our Isles for our food supply. The map will tell you where we get our materials for industries and our food, nor has this problem escaped the attention of Captain Sorb and other critics. He said that France is in no danger, because after all you cannot materially injure France by sea Power. He says that we might annoy France and bombard a place or two, but it would do us no good; "but," he says, "what about the English? You will have no food, if you lose naval power you lose the materials of your industries; your working classes will be idle and starving. You are in the most peculiar position in which any nation ever were placed." Even Rome, when it was enjoying its gladiatorial sports, much superior to football matches, was not in anything like such a position, nor was Constantinople before its sack by the Crusaders. We are the only nation with such responsibilities, who could not live for three or four months on the produce of our own islands. That is a strategic position which you may find before many years is awfully important; but it has been fully discussed by Captain Stewart Murray and eminent mercantile, as well as naval and military experts in this hall.

Well, I have discharged my task by indicating rather than teaching the lessons of the past. We have heard out of the mouths of the most eminent people living what they think of the position, and no recondite knowledge is required to acquire data for a sound judgment. You can procure all the information you require, strategic maps included, for a few half crowns. Our rivals are very considerate, and tell us the whole truth. You can read their speeches and views every morning in your own daily press, which is admirably served with regard to intelligence. You can take up any Encyclopædia and read the doings of our diplomatists for the past thirty years, and the essays of our dialectical political strategists are issued in cheap pamphlet form. You have read of the consequences to other communities of military apathy? What do you propose to do? To muddle away? To continue apathetic, or awake and arouse yourselves like strong men after sleep? You have command of the sea. Will you keep it? Look at Australia. Are you going to leave Australia at the mercy of the Japanese and Chinese? What about New Zealand? I wish to goodness they had kept their football players at home. Their games prove nothing, except the degeneracy of the spectators. What about India, that great strategic centre? Singapore? Are you going to abandon or keep it? We have a splendid position there. Hong Kong, South Africa, East Africa, West Africa, the present strategic value and tremendous potentialities of Canada. Surely, here on this map of our Empire are conditions of greatness if properly co-ordinated far beyond all Greek, far beyond all Roman fame. If we do our duty as well as our ancestors did in 1805, this Empire will be strengthened and confirmed in strength to the honour of our rich folk, and the mental and moral elevation of all classes of our community.

"One strong great Empire must that be;  
Oh, God in Heaven! we look to Thee  
To give us courage, strength, and skill,  
To keep it safe from shame or ill."

## APPENDIX I.

## PRINCIPAL CAMPAIGNS SINCE 1870.

- 1870-1.—Franco-German.  
 1876-8.—Balkan Peninsula and Armenia.  
 1878-1880.—Afghan Wars—two of 60 small campaigns by British in this period, most of which, like Zulu, Chitral, Tirah, Boer War of 1881, etc., we omit.  
 1882, and at intervals till 1898.—Egypt and Sudan.  
 1894-5.—Japan and China.  
 1896.—(Adowa), Italians defeated by Abyssinians.  
 1897, April and May.—Turks smash Greeks.  
 1898.—America smashes Spain.  
 1899-1902.—South Africa.  
 1900.—China War. Peking taken by Allies.  
 1904-5.—Russo-Japanese War.

## APPENDIX II.

## PRESIDENT ROOSEVELT'S FOREIGN POLICY.

From the *Times*.

In foreign affairs no less than in questions of internal policy, President Roosevelt is not the man to shrink from taking part in the solution of any problems that may present themselves. He has been telling the people of Richmond that the Americans are a great people and must play a great part in the world. It is not open to them, he says, to choose whether they will play that part or not. It is only open to them to play it well or ill. Things move quickly at the present day, and it is easy to forget that only a few years ago such language was never heard from American lips.

The dominant view until quite recently was that America had to maintain the Monroe doctrine, and for the rest to let the world go its own way. That mode of thought has gone for ever, and world politics have to admit new factors from the West as well as from the East. In his speech at Jacksonville, the President took the same high ground in referring to the relations between the United States and the Republics of the South. He reaffirmed his view that the United States must police the Panama Canal district and possess for this purpose an efficient navy and the control of the strategic approaches. But he was careful to add that the United States did not desire another lot of territory, and that if ever it was necessary for them to interfere in the affairs of any of their neighbours, it would be with the sincere purpose of being beneficial to the peoples concerned. No one will imagine that the President is other than genuine in his desire to further the best interests of the ill-organised States which border on the Caribbean, but the rôle of international policeman has many difficulties and dangers attached to it, and we can only hope that untoward circumstances may not call upon him to play it.



## APPENDIX III.

## CAPTAIN SORB QUOTED.

Translated from Captain Sorb's book, published, 1905, by Chapelot, p. 8:—

"France has hitherto had only one policy—it contemplated war against the Triple Alliance. But the expansion of its colonial domain compels it to consider henceforth the probability of a struggle with England, and we must study the best means of attacking the commerce of that Power."

Page 13:—"We were obliged to retire shamefully from Fashoda, because the French fleet was absolutely unfit to combat that of England."

Page 324:—"For quite a long time the European nations were absorbed in military preparations, while Great Britain lived in perfect quiet, and was proud of her splendid isolation, but since France, Germany, and Russia began to organise their fleets, it was necessary for her to shake off her torpor."

## ENTENTES CORDIALES.

Page 331:—"Let us not then cease, in spite of passing *ententes cordiales*, to contemplate, in a future more or less distant, the perspective of a war against England, and proceed more actively than ever to take the necessary measures for its preparation. Let us show our neighbours that while keeping on excellent terms with them, meanwhile we won't fear, ourselves alone, to enter into a contest with them in which we may well be victorious, especially when the British naval organism will necessarily be enfeebled in consequence of a struggle with Germany."

Page 331:—"England is to-day in a state of unstable equilibrium. Great Britain only maintains its position by shifty devices and transitory arrangements, which enable it to keep alive as it were from day to day. Her future is always uncertain, and the least accident, brought about by a continental alliance, would cause the complete foundering of her 'Colossus with feet of clay.'

"On the other hand, France can consolidate her position by the adoption of a far-seeing policy, supported by certain and durable alliances."

## APPENDIX IV.

## SIR E. BARROW ON THE PROBABLE CONSEQUENCES OF THE ANGLO-JAPANESE TREATY.

*National Review*, October, 1905.

A most interesting article is contributed by Lieut.-General Sir Edmund Barrow, K.C.B. It is entitled, "The New Balance of Power in the Far East," and as a prelude the writer gives the reader some extracts from two articles contributed by him to *The United Service Magazine* in the years 1893 and 1895. In the article of the former year he gave a description of the Japanese Army of that period, which recent events have proved was an accurate one. Sir Edmund described

it as admirably organised, splendidly equipped, thoroughly drilled, and cheaply and honestly administered. In the article written in the year 1895—a sequel to the previous one—the conclusions and predictions which he arrived at so far back have been most strikingly verified by recent events. Sir Edmund summarises in the present article the immediate results of the Japanese War, with its corollary the new Anglo-Japanese Treaty, as follows:—

1. The supremacy of Japan in Korea.
2. The preponderance of Japanese influence not only in Manchuria, but also in the councils of Peking.
3. The domination of the Asiatic shores of the Pacific by the fleets of Great Britain and Japan.
4. The position of sullen impotence to which Russia is reduced in Asia.
5. The discomfiture of German political aspirations in China.

Sir Edmund then considers the influence these results may reasonably be expected to have on the course of events, and the political strategy which the new situation demands. The deductions which he draws are:—

1. That the interest of foreign countries outside the Alliance may be seriously compromised by the new situation, and that, thanks chiefly to China, the sources of international friction have been augmented rather than diminished.
2. That the regeneration of China from within is an impractical aspiration, and that foreign pressure may easily produce an acute crisis.
3. That though the commercial exploitation of China is a problem for immediate solution by our mercantile classes, we shall in the future be confronted by the real "yellow peril," in the shape of the formidable commercial and industrial competition of a fully developed China.
4. That Japan may, by the force of circumstances, become a dangerous rival or even an adversary instead of an ally.
5. That federation with our Australian Colonies may be quickened by this very danger.
6. That no reliance should be placed on the direct support of Japan for the protection of India.

From the above deductions the general conclusion that may be drawn is, that though the new balance of power in the Far East is unquestionably to our present advantage, it contains within itself many elements of disturbance and danger. Sir Edmund, who is an ardent student of the Far Eastern question, writes with a knowledge and acumen that places him in the front rank of authorities on this intricate subject.

## APPENDIX V.

### EURIPIDES ON GAMES AND MILITARY EXERCISES.

I've often blamed the customs of us Hellenes,  
Who, for the sake of athletes, meet together  
To honour idle sport and feed our fill:—  
But who, I pray you, by his skill in wrestling,

Swiftmess of foot, good boxing, strength at quoits,  
 Has served his city by the crown he gains?  
 Will they meet men in fight with quoits in hand?  
 Or in the press of shields drive forth the foeman  
 By force of fisticuffs from hearth and home?  
 Such follies are forgotten face to face  
 With steel. We therefore ought to crown with wreaths  
 Men wise and good, and him who guides the State,  
 A man well tempered, just, and sound in counsel.

Euripides, if alive again, would be a strenuous lecturer for the Navy and Army and National Defence Leagues.

## APPENDIX VI.

### IGNORANCE AND GAMES.

#### *Tactitus Dialogus.*

Iam vero propria et peculiaria hujus urbis vitia paene in utero matris concipi mihi videntur, histrionalis favor et gladiatorum equorumque studia, quibus occupatus et obsessus animus quantum loci bonis artibus relinquit? quotum quemque invenies qui domi quidquam aliud loquatur? quos alios adolescentulorum sermones excipimus, si quando auditoria intravimus?

## APPENDIX VII.

### ANGLO-GERMAN RELATIONS.

24th November.

The speeches delivered last night at a meeting organised in support of the new Navy Bill by veterans of the German Students' League were characterised by a decided Anglophobe tone.

Professor Wagner, the well-known lecturer on political economy at Berlin University, said that British hatred of Germany was solely due to jealousy. Germany must have a strong fleet to guarantee her independence, and the German workman must remember that if Germany were defeated the workmen would have to suffer most. There were many, he continued, who desired to see Germany defeated, and there were people in high places who were doing their best to bring it about. Did anyone believe that England would respect neutral harbours? England for centuries hindered the humane development of maritime law, so that even now piracy was rife. No people in the world were more hypocritical and brutally egoistic than the British. After alleging that it was to England's advantage to keep France and Germany apart, Professor Wagner pointed out that German finances, which, as an expert, he was able to declare were the soundest in the world, permitted the Navy to be increased.

General Liebert said that he was no Anglophobe, but he would endorse the saying that whilst respecting England and being always ready to learn from England, it was necessary to maintain the strongest defence against England.



## APPENDIX VIII.

## GERMANY AND ABYSSINIA.

The Emperor has publicly declared that if the Powers do not, within a reasonable time, present a scheme for his approval, he will undertake the construction of the line from Diré Daoua to Adis Abeba without their assistance. Dr. Rosen's mission has been followed up by the appointment of a German Minister at Adis Abeba, and it was recently reported that the Emperor Menelik is making preparations on an unusually magnificent scale for the reception of the new Minister. At present German commercial interests in Abyssinia are small almost to insignificance. But a contract secured by a German firm to build and finance the railway to Adis Abeba would completely change the situation. It can scarcely be to the interest of either France or Great Britain that, *mutatis mutandis*, the Morocco imbroglio should be reproduced on the other side of Africa. An alternative proposition has been mooted, by which the newly-established Bank of Abyssinia would provide the Emperor with the funds for the construction of the railway in his name. From one point of view such a proposal would perhaps be less open to objection than if the Emperor were to accept German assistance, but it would scarcely tend to strengthen the *Entente Cordiale* if a bank with its headquarters at Cairo were to secure a contract to which a French company believes that it has a prior right. Yet France can scarcely with reason invite the British Government to use its influence with the Bank of Abyssinia to prevent that institution from securing business which might otherwise go into German hands.

## APPENDIX IX.

## GERMANY IN AFRICA.

In Africa the principal German possession is her large and practically barren colony in the South-West—"light soil," as the late Lord Salisbury would have called it—which, in all human probability, will never be worth the blood and treasure which Germany is spending upon it at the present moment. In East Africa, too, she has a troublesome war on hand; but German East Africa is by far the more valuable asset of the two. It has a fair chance of becoming remunerative, and its strategic value is unquestionable, for it stands between our own possessions in East and Central Africa, and commands the route from the Cape to Cairo. Whether it will pay or not is another matter.

## APPENDIX X.

Marsh, the American author of "The Earth as Modified by Human Action," says, page 395:—

"War develops great civil virtues, and brings into action a degree and kind of physical energy which seldom fails to awaken a new intellectual life in a people that achieves great moral and political results through great heroism and endurance and perseverance. Domestic corruption has destroyed more nations than foreign invasion, and a people is rarely conquered till it has deserved subjugation."

## APPENDIX XI.

## PRINCE GORTSCHAKOFF ON THE RUSSIAN ADVANCE.

In reply to remarks by England in 1864, Prince Gortschakoff, Russian Minister of Foreign Affairs, protested that the Russian Government had no desire to extend in Central Asia. His explanation is very interesting. I quote Niox "*L'Expansion Européenne*," page 108:—

"Lorsqu'un état civilisé se trouve en contact avec des peuples dont l'organisation sociale est rudimentaire, il arrive toujours que l'intérêt de la sécurité des frontières et celui des relations du commerce exigent que l'état le plus civilisé exerce un certain ascendant sur des voisins que leurs mœurs nomades et turbulentes rendent fort incommodes.

"On a d'abord des incursions, des pillages à réprimer; pour y mettre un terme, on est forcé de réduire à une soumission plus ou moins directe les peuplades limitrophes.

"Une fois ce résultat atteint, celles-ci prennent des habitudes plus tranquilles; mais elles se trouvent, à leur tour, exposées aux agressions des tribus plus éloignées. L'état est obligé de les défendre contre ces déprédations et de châtier les pillards et qu'on se retire, la leçon est bientôt perdue; la retraite, surtout dans l'esprit des peuples de l'Asie, est mise sur le compte de la faiblesse; il faut donc poser les bases d'un système sur des conditions géographiques et politiques, fixes et permanentes."

Captain P. A. CHARRIER, Royal Munster Fusiliers:—I should not have reason to address the meeting were it not for the fact that Dr. Miller Maguire asked me whether the *Entente Cordiale* was of very great value to England. I have read a great deal about it, and made considerable enquiries with regard to it, and so far as I know the people in France do not seem to lay much stress on it. They certainly would not go to war just to please us. In fact, as far as I can make out, they are extremely peaceful in France. They would not take up any question in which we were concerned unless of course there seemed to be a very great advantage to be gained by it.

Captain CECIL BATTINE, late 15th (the King's) Hussars: It is a very bold thing to disagree with the lecturer on strategy, but there is one point at any rate on which I should like to join issue with him. In tracing the changes in the International strategic position since 1870, he has dwelt, as I think unduly, on the importance to us of the situation in Central Asia, and on the Indian Frontier. I have never believed that the annexation of India was really threatened by Russia. I think Dr. Maguire himself in some way points to that by his admiration of the Russian people, and his admiration of the way they have extended trade and commerce, railways, and civilisation towards the Far East in a perfectly legitimate manner. It must be remembered that the British policy has been systematically to thwart the expansion of Russian power, and it seems a perfectly legitimate and natural retaliation on their part to threaten the nearest British territory; but that does not mean they necessarily covet that territory. I cannot help thinking that the last thing they wish is to be established rulers of India; but they certainly mean, and have meant, that if we go on interfering with their legitimate expansion, they are prepared to resort to reprisals as best they can.

Furthermore, I think that if strategy had been better understood, and history and geography more extensively studied in English schools, especially in the public schools and Universities, where our Statesmen and Members of Parliament are educated, the immense difficulties in the way of invading India would have been better appreciated—difficulties which have to some extent, it is true, been reduced by the extension of railways, but which are still gigantic. Since Lord Kitchener has been Commander-in-Chief in India it may be said that measures have been taken which render all chance of a successful invasion of India impossible at present, and for some time to come. Furthermore, although the Hindoo is not able to defend his own territory, still there are undoubtedly in India populations from which forces far larger than those at present under the British colours can be obtained. What we want in India is what we want in England, namely, a sound system of military organisation, which would make the best of the magnificent material we possess. To quote Sir Charles Dilke, the centre has changed now from the Indian Frontier to the Straits of Dover, that there is much more risk of hostile invasion of our territories nearer home than there is in India. It is true our fleet at present is so formidable that no European fleet, and no combination probably of European fleets, would have a chance against it; but it does not follow this state of things will last for ever, nor does it follow that the new fleets being built will be on our side. Weakness is the surest temptation to another country, and to a coalition, to attack us. Dealing with the case of France and the views expressed that there is an influential party in France not very keen about the English alliance, that is very easily understood. It would be a very small consolation to the people of Paris, if they were being bombarded and besieged, to know that the British fleet swept the Channel and the North Sea. So long as we can put an army into Belgium, or on the flank of the French army, which is strong enough to turn the scale in a war, or even to render doubtful the issue of a war with Germany, I feel sure that we can count on allies on the Continent, just as certainly as we could in the days of Marlborough and Wellington, when we were able to put such an army in the field as eventually to turn the scale in both the great Continental wars. For it was Marlborough who checked the victorious career of Louis XIV., and it was Wellington at the crisis of the war against the French Empire at Salamanca, Vittoria, and Waterloo, who eventually turned the scale, and it was a British army that ultimately occupied Paris. If we are to be able to check the dominant Power of the Continent, it must be under the same conditions; we must have an army, if not strong enough to compete with the armed forces of Germany in a single duel, at any rate strong enough to enable the French successfully to defend their independence, because their very independence and existence will be threatened in the next war between France and Germany. I have said that the problem is the same in India as at home, and that what we have to do both at home and in India is to organise the magnificent material we possess. I think we may perhaps go too far in the direction of running down our own people. No one more than myself feels that there is room for criticism against the lackadaisical carelessness of our rulers in the highest situations during the last ten years; but I think we can go too far in that direction. I am certain there is no other country in the world that could be depended on for two years running to supply, as we regularly do, 100,000 voluntary recruits to the various Services. With great regularity 100,000 men enrol themselves in the military service of their country of their own free will every year, and a



great many more offer themselves. Very much more use might be made of the services of these men. I think a great deal might be done to enable them to serve in such a manner that their economical interests would not be injured, and that so far from their losing money, and losing a chance of starting life by serving their country, their services in the Army might be arranged so as actually to help them. It must be remembered that countries like France and Germany maintain their Armies for a double purpose; they not only exist as schools for recruits and officers, but also for organised forces which must be prepared at a very few hours' notice to resist invasion day and night. No such necessity exists, or can exist, in England so long as we have a fleet on the sea. We are in the position to use the whole of our military organisation purely as schools for the training of the troops, and that we do not do so is not the fault of the people. The majority of the voters, although they have the cheerless homes Dr. Maguire has so eloquently described, are marvellously patriotic, and take a wonderful interest in the prosperity of their Empire. It would be surly to begrudge them the pleasure they get in watching that magnificent New Zealand fifteen who win match after match against our English football teams. There is one other thing I should like to allude to, and that is the very unfortunate comparison made by the Prime Minister of a warlike country in saying that war was a disease. It should be remembered, however, that he had a very mixed audience to appeal to. There are many people who have been brought up, without knowing what they are talking about, to talk of war as very wicked. It is an absurd thing for a country that rules a huge Empire by the power of the sword, which it has conquered by force, to talk about war as a disease. Accepting the metaphor, there is, however, such a thing as antiseptic surgery. There are surgeons who can be depended upon to do their best honestly and fearlessly, and there are also Chinese surgeons who resort to old-fashioned methods, harmful drugs and incantations. We should apply the principles of modern surgery to our International position, to the strategic education of our people, and to the tactical education of our troops.

His Honour Judge RENTOUL, K.C., LL.D., City of London Court :— I have very great and excellent qualifications for speaking on the subject of the lecture, namely, that I know absolutely nothing about military strategy from any possible point of view; but after twelve years' experience in the House of Commons I learned that knowledge of a subject is not an essential qualification for making a speech, and that, in fact, knowledge of the subject is rather a detriment to one's eloquence than otherwise. I am sure that I shall rise in the estimation of Dr. Maguire at once when I tell him that I never played football, golf, or cricket, either on a Saturday, Sunday, or any other day, in the whole course of my life. I always had one very strong idea throughout my Parliamentary career, and that was, that no amount of money that we were spending on our defensive forces in this country was more than enough. I always thought that spending money on a force to defend this great Empire was spending money as a great national insurance, and was money extremely well and extremely wisely spent. Men often deplore the money they spend in insurances. Why are they sorry about spending it? Simply because the house was not burnt at any time, and therefore the money was lost. But if a time should come when the house was burnt down, then they would find that insurance was a very wise thing indeed. There is a fear amongst the people of this country that if we went in too

much for improving our defensive forces we should suffer from what is called militarism, and that the great force and power of this country, namely, our commerce, might suffer neglect and decline. But if one takes Germany as an illustration, and remembers what attention Germany gives to the Army, and then observes that in commercial enterprise Germany is leaving us behind at the present time, one sees that attending to our forces, even to a very great degree, and compelling the people to be trained in order to defend themselves, does not interfere in the slightest degree with the commercial enterprise of the country. I remember when I was a student in the University of Berlin, our Ambassador at that time was Lord A. Loftus, and the old Emperor was in the habit of being very jocular at times with the Ambassadors. One day he said to Lord A. Loftus: "My lord, you must admit, I am sure, that the Germans are superior to the English." "Well," said the Ambassador, "might I ask your Majesty in what direction?" "In every way," said the Emperor. "Well, to particularise, in what one department are the Germans so superior to the English?" The Emperor replied: "In education, for instance." He thought he was on firm ground there; but the Ambassador said: "What department of education, your Majesty, for education is a big word?" "Well," said the Emperor, "for instance, in speaking foreign languages; 70 per cent. of the educated people of Germany speak a second language, whether with a Parisian accent or not, whereas not 10 per cent. of the educated English are in that position." "That is so," said the Ambassador. "But your Majesty must remember that we have not had the same educational advantages as your subjects have had; we have not had the same opportunities of learning foreign languages practically." "How so?" asked the Emperor. "Because," said the Ambassador, "we have never had a foreign foe holding possession of our capital city, and living amongst us, so that our educational opportunities have been somewhat limited on that account." That story delighted all the English who were in Berlin at the time, and it is a proud boast that our capital is the only capital of any great Power in Europe that can tell that tale. May the day be far distant when we shall no longer be able to tell it. We trust that we shall never see the foreign foe holding possession of our capital city. At the same time, talk such as one often hears at a city dinner, for example, late in the evening, about the impossibility of anybody touching England from any possible point, or about nobody being equal to us in anything at all—well, that is all very well for an after-dinner speech; but we shall have to walk along the lines on which other nations are walking if we intend to keep the position which we have at the present time, with an Empire scattered over the whole world. I quite agree with Dr. Maguire that International Law is pure rubbish. I also agree with him with regard to metaphysical strategy. I do not know anything about military strategy, but I know a great deal about the very wide-spread strategy one sees very often in the Old Bailey—the strategy of house-breaking and picking pockets. But International Law is, after all, merely a code of etiquette at the best, which one breaks exactly when it suits one so to do. Therefore, for us to rely on International Law, and in any way to neglect attending to our defences a great deal better than we do at the present time, is certainly not a wise thing. I am sure we have all benefitted very much by the light that has been thrown on this subject to-night. Metaphysical strategy is not good strategy, I should say, and Dr. Maguire was certainly not metaphysical in his remarks to-day; he was extremely pointed. Metaphysics has been defined as one man explaining a subject of which he



knows nothing to another man who does not understand him; but I am sure that Dr. Maguire was explaining a subject he knew, and, as far as our limited capacities go, I hope and believe we understood him.

Admiral the Hon. Sir EDMUND FREMANTLE, G.C.B., C.M.G. (Rear-Admiral of the United Kingdom):—I have very few words to say, but I wish to bear witness to the great importance of the subject and the manner in which Dr. Maguire has put the whole question of strategy before us. Of course, we all thought he was going to talk nothing but strategy, and we all knew he would be extremely amusing and interesting, and we were not disappointed. What struck me more particularly was the stress which he laid upon the human element. It is a question of the greatest importance, and all strategy would be of no value whatever without the human element being taken into consideration; in fact, unless we are the strong man armed we shall not keep our house. The difficulty arises chiefly at the very beginning of the subject, and we must look to the root of the matter. It is a question of the schools. What do they teach in the schools at the present moment? They teach, as far as I can make out, selfishness, and the way to get on. What they ought to teach is patriotism, self-denial, and self-sacrifice. Now, why is it that in this country we cannot show the national flag in the schools? Why is it that in America they almost worship the national flag? Somehow or other there is the greatest difficulty in introducing anything in the shape of a national spirit into the schools, although I am happy to say there is a change in that direction, and that we are improving. The next generation, if the Empire lives as long, I believe will be more patriotic than the present generation; I see signs in that direction. But we must make sacrifices; we must have less luxuries, and must be more determined to carry out to the best of our ability whatever work we have in hand and give a little less time to play and to amusement. There is no doubt about the extreme difference between the strategical position of this country, as compared with other countries, from what it was in 1870 or 1871, and I am very glad Dr. Maguire has called attention to that. But, after all, I rose merely to say that I entirely agree with him as to the necessity for something like self-sacrifice. What is it that the great Free Trader, Adam Smith, says? We know very well that he was a great advocate of commercial freedom, and for removing the restrictions of commerce, but he spoke very strongly and wrote very strongly in favour of the navigation laws, his argument being: "Security is of much more importance than opulence." Have we not in recent years, in the development of our ocean trade, as well as in other directions, given way to opulence, and made everything subservient to the idea of wealth and the idea of increase of trade? Have we not in many respects disregarded the question of security? That is the point which we have to bring home to our countrymen. I am very glad that we have such inspired lecturers as Dr. Maguire, and I am sure if his voice could be heard throughout the country, and people would give due weight to the words which fell from him—words explaining so eloquently the position we are in—we should not rest a moment longer before we put our house in order.

Dr. T. MILLER MAGUIRE, M.A., LL.D., Barrister-at-Law:—My function in regard to replying to the discussion will be simplicity itself, as I have to say that I agree with nearly every word that has been said. In regard to the last speaker, I can return his compliments a hundredfold. Since I have had the pleasure of knowing Admiral Fremantle he has



been foremost in every good work. Whenever I go to a meeting or a deputation for any patriotic cause I am not long there before I hear his cheery voice and listen to his sage remarks. I quite agree with him, and his experience is not merely derived from second-hand writers. I believe he was in the Far East and saw the Japanese almost in their embryonic stage, and he has watched their progress ever since. Preceding the Admiral was Judge Rentoul, who has an extraordinary faculty of letting cats out of bags, and some of his remarks I wish especially to refer to. The Judge hit the nail on the head over and over again. He specially pointed out the absurdity of talking about militarism. Of course it is an absurdity. Hired condottieri ruffians, who went about plundering in the Thirty Years' War, or even feudal tyranny or Bashi Bazouk raids and robberies, are of course most outrageous and deplorable; but a nation that is not ready to fight, or a man who is not ready to fight, even in a Law Court if not in tented fields, is no use whatever. The very Turks and Saracens fought for religion. No modern State has the slightest desire for pure militarism. Certainly a soldier who is fond of campaigning for the love of campaigning must be a peculiarly constituted man. The only nation that adopted this nonsensical view about militarism, as is pointed out by my friend Baron Suyematsu, were the Chinese. He says that the Chinese are absolutely the only large community of people who ever showed by their literature and practice that they really, like some of our public speakers, despised the Art of War. They were so numerous, however, that they absolutely absorbed their Tartar and Manchurian conquerors, who became more Chinese than the Chinese themselves. All the people who came down from beyond the great central ridge of Asia or from Mongolia to conquer China were absorbed like an injection into the blood, and the Chinese are numerous and rich still, and able to retaliate on Americans and Europeans. But the result of their non-militarism is that they have been insulted and beaten again and again, and, having no sea-going fleet, they adopted a plan of exclusion—an absolute alien exclusion system of the most comprehensive type for ages. But even these exclusive barriers have been forced open. They have a word which I cannot pronounce, and to which Baron Suyematsu refers, which means "utterly disgusting thing called militarism." But the ideas underlying that word brought the allies to Peking, and that word is what enabled the Manchus to rule the Chinese. However, there are signs that the Chinese propose to shake off their apathy and to drill and to arm and to hold their own again. I was very glad indeed to hear Captain Battine. Although he did not say much about himself, I am going to say something about him. Captain Battine has produced one of the best books on the American Civil War that has been written. It is a very valuable book indeed, with many valuable lessons on strategy set forth technically. But to-day he was dealing with the broader foundations of the subject and how it affects our business and comes home to our bosoms. Captain Battine's remarks were extremely wise and strategical, but it would take a long time to follow them. I cannot help agreeing with him in every particular; but if the gallant officer thinks I want to depreciate the British race in any particular he is wrong. What I want to do, if possible, is to see that we are able to talk to our enemies at the gate by being prepared in time—that is all. I was not born in either Paris or Peking, as could be easily seen when I spoke French and Chinese. I only want to enforce the one great lesson of all History, that the cheapest policy is to be prepared for war at any time. If the Americans had had ready two army corps in the campaign of 1861

of which Captain Battine is such a master, the Civil War, which was over in their favour in 1865, would have been over immediately in 1861, as Sherman proved in advance. What is the use of continuing a war for four years that might be over in four months? What is the use of spending a thousand millions of money when, by taking General Sherman's advice, the whole operation could have been completed for thirty millions of our money? What a ridiculous person I should be to stand up here and pretend to depreciate the British, because I belong to this nation as much as any of them. But the British Empire was not made by football players or cricket or golf players; it was made by workers who never played. Take our last war. What on earth was the use of our people spending 250 millions and losing 20,000 men in two and a half years in South Africa through mere folly and political drivel by so-called sportsmen, when, if they had listened to officers who spoke in this room and their own advisers—men like General Baden-Powell and General Butler and Lord Wolseley—there might have been no war. If they had listened to the General on my left or read this little book on scouting, to my certain knowledge they would have saved themselves many men and much money. If they had taken the advice of any class of wise folk outside their own narrow and ignorant fashionable sets of ball players and idlers, we should have finished that war at an expenditure of forty millions at the most; and we are suffering to-day, every one of us is suffering from indirect losses due to mere incapacity. I am simply telling you the mere facts of history. As to Captain Charrier, I think he is a bit of a diplomatist, because I know that he is one of the most deeply read men on strategy in this room, and one most conversant with these matters. However, as he agreed with me, I feel complimented. Criticising the *Entente Cordiale* is not the best way to get very popular in certain political societies at the present moment, and I was rather fidgety about being obliged to depreciate its value, and therefore I am glad to find that my views, which I expressed modestly, are supported by such a competent authority as Captain Charrier. I only want to warn you against trusting to anything but that which Lord Bacon said is the true source of greatness in the work-a-day world. We must not trust money, nor machinery, nor alliances; we can rely on nothing—nothing except the heart and brain and sinews, trained and well organised, of our great people. I wish everyone was full of burning enthusiasm for our national greatness and the elevation of the masses of our people. With all its faults, our little insular State has a splendid record, and is worthy of all our best energies.

“She's not a dull and cold land,  
No! she's a warm and bold land;  
Oh, she's a dear and old land,  
This native land of ours.”

The CHAIRMAN (Major-General R. S. S. Baden-Powell, C.B.) :—We have had a long meeting, and I will not detain you much longer; but I should like to say that I think this lecture and the speeches we have heard in the discussion have been such that we ought to carry away with us many thoughts, and we ought to read the whole thing a second time when it is published. The subject is a most important one, not only for us who are soldiers and sailors, but more especially for those outside the Services, our legislators, statesmen, and merchants, and all those who have the interests and welfare of the country at heart. This lecture is most valuable in teaching us those great reasons why an adequate armed

insurance is necessary for our country. That insurance must be adequate. It is for our countrymen to see that it is so if they want to keep our present widely-extended rich Empire. We must be prepared to face any enemy, who would otherwise say :—

“Without the iron to guard it and hold,  
Where is the good of your store of gold?”

It is our countrymen who must look to it that we have adequate forces to do that. They must understand that hysterics are not patriotism; and they could not do better, after studying this lecture, than read that work by Major Stewart Murray : “The Peace of the Anglo-Saxon,” and also that little brochure : “The Rise and Fall of the British Empire,” because those books have their lessons in connection with this survey of International strategy that Dr. Miller Maguire has given us this evening. Another point they would do well to remember is the axiom of Von Moltke : “That a nation gets the Army that it deserves,” and that it is their own fault if they do not get a good Army and an adequate one. That is the thing our countrymen must insist upon getting, namely, a well-found Army to second the Navy in its work of defending our dominions. I need hardly say that our most sincere thanks are due to the lecturer for the able manner in which he has put forward the subject this evening, and I therefore beg you to accord him a hearty vote of thanks.



# THE HEALTH CONTROL OF THE ARMY: A CONTRAST.<sup>1</sup>

*By Lieut.-Colonel W. HILL-CLIMO, M.D., A.M.S. (Retd.).*

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“Frederick the Great, in speaking of officers who relied on their practical experience alone, caustically remarked that there were in the Army two commissariat mules which had served through twenty campaigns; ‘but,’ he added, significantly, ‘they are mules still.’ To draw all the good out of practical experience, reflection and comparison will be impossible unless the brain has been trained to think and the mind is stored with the knowledge of the past.”—*The Science of War.* By Colonel G. F. R. HENDERSON, C.B. Edited by Captain NEILL MALCOLM, D.S.O.

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AS nearly four years have passed since the close of the South African War, the time seems opportune to consider whether the changes which have taken place in Army Medical organisation meanwhile are adapted to secure the physical efficiency of the Army, and medical preparedness for war. At first sight the association of these conditions may be thought to be a mere hypothesis; but in the course of this paper it will be shown that they are inseparable, for the physical efficiency of an Army in war depends upon effective health-control during peace, and the medical service in its exercise obtains the practice and experience which best qualify it for its most important duty, which is the prevention of epidemic disease in war.

To understand what is the present position of the medical service towards health control, it will be necessary to enquire what were the previous changes which had taken place in its organisation, and what was the effect on its capacity to perform this duty. The first was the institution of the Army Medical School in 1860 by the late Lord Herbert of Lea; it was a measure of first-rate importance, and was called for by the state of health of the Army in peace, both at home and in India, and by the medical experiences of war. In the Walcheren campaign and in the Peninsular and Crimean wars the troops were devastated by scurvy, dysentery, and fevers arising from pre-

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<sup>1</sup> This paper deals with conditions of health, which, in a special degree, relate to the British Army; for those which are common to all Armies, at all times, and in all places, attention is invited to the Enno-Sander Prize Essay, entitled:—“The Relation of the Medical Department to the Health of Armies,” published in the April and May, 1905, numbers of *The Journal of the Association of Military Surgeons of the United States.*—W.H.C.

ventable causes, which were at that time considered to be chiefly dependent upon environment, but not altogether, for the late Dr. E. Parkes, who was the first Professor of Military Hygiene in the Army Medical School, laid great stress upon the person of the soldier and upon individual predisposition to disease, whether hereditary or acquired; but in the sense that this question is now understood, his teaching had but little influence on those medical officers who were already in the Service, for the reasons which will be presently given.

The other changes took place in 1882; they were the unification of the department, the substitution of station for regimental hospitals, and the removal of medical officers from regiments and corps units. The first two were real reforms, and were intended to secure medical efficiency in war, but the third was only rendered possible by a misconception of the effect which short service would have upon the health of the Army. It is conceded that it permits an important saving to be made during peace, but only by depleting the medical department of its proper complement of officers, and if the disastrous effects it has had upon the physical efficiency of the Army in war is considered, even this gain is problematical.

The object of this paper, therefore, is to call attention to the imperfect comprehension of the A.M.D. of the duties which the adoption of short service imposed upon it, both in peace and in war; to show that the neglect of personal hygiene, which has been so characteristic of the Army since 1882 up to the South African War, was the direct consequence, for it was in that year that the control of the health of individual soldiers—not actually under medical treatment—ceased to be the direct concern of the A.M.D., and the sanitation of corps units was officially removed from its immediate supervision; to contrast therewith the work which is now being done by the medical service; and finally to suggest what further measures are required to make the health control of the Army in every respect effective.

To this end enquiry must be made into the causation of disease in Armies and of epidemics in war; it is the more necessary to do so because hitherto this question has not been fully considered. The causes of disease in Armies and of epidemics in war are internal and external, namely, those which are produced by the Army itself and those to which it becomes exposed through service. The former relate to the individual, and include vulnerability to disease, whether hereditary or acquired, and the latter to those conditions which are grouped together under the head of environment. To combat the former, personal hygiene and medical supervision are essential, and that is the one thing which, since 1882, the Army has never had, for it must be remembered that the preservation of health and the prevention of disease are not identical with medical treatment. In regard to environment, the duty has always been a divided one; that is to say, the regimental medical officer brought to notice insanitary conditions, which the commanding officer had to correct, usually acting on the advice of the medical officer. It was not a perfect system, but it had advantages; and its faults, such as they were, were not inherent. Perhaps if the department itself had had a more thorough belief in the efficacy of sanitation the proposals of its more enterprising members would have met with a more cordial response. The fact that the A.M.D. was able to revolutionise its relations to the Army and to destroy this system without supplying an efficient substitute



may be taken as an indication of the slight value the Director-General and his advisers put upon personal hygiene. The departmental mule of 1882 differed in no degree from his prototype of 1860, for whose extinction the Army Medical School had been instituted.

Departments, like individuals, may learn their best lessons from the history of their failures, though the lesson is harder and takes a longer time to learn, for with diversity of opinion the truth is not easily discoverable, which will to a certain extent explain why it was that from 1882 to 1889 the relations of the A.M.D. to the health of the Army became more and more unsatisfactory until medical responsibility practically ceased for all work outside hospitals and bearer companies. It was no wonder, therefore, that departmental responsibility could not be enforced for sanitary failures during the South African War. It could not be otherwise, for medical officers were never given the opportunity to practise these duties during peace; it was impossible for the department in the turmoil of war to accommodate itself to a new situation. The importance of familiarity with the business of war—for it is a business—is thus graphically put by Colonel Henderson in the work from which I have already quoted:—

“It is unquestionably an advantage, however, in any business, that the men responsible for its administration should abide by the same rules, follow the same procedure, and be thoroughly acquainted with the methods which ensure smoothness and despatch; and nowhere more than in the conduct of a campaign is friction embarrassing, delay dangerous, and misunderstanding, even on some apparently insignificant point, fraught with the possibilities of the gravest mischief. It is only by the establishment of a sound system with which every staff officer is thoroughly familiar, and of which the details receive the most scrupulous attention that such rocks are to be avoided.”

The mistake made by the authorities who were responsible for medical organisation before the South African War was that they failed to organise the department for sanitary work in war, and to afford junior officers the opportunity of practising it in peace. Such a system did exist on paper, and though defective organisation made it difficult to afford this instruction, a capable Director-General could have done much to lessen this difficulty; though it was, perhaps, rather hard for him to impart what he did not know himself, still, he had many able officers who would have been willing to have undertaken this duty. It must be remembered that medical officers who joined the service after 1882 could not otherwise make themselves acquainted with the internal economy of regiments, which lies at the bottom of effective regimental sanitation. It was, indeed, an anomaly to place officers in a position which required a thorough mastery of details, a readiness to accept responsibility, and the intuition to act with promptness and with judgment without their having had any practical training; these officers could only turn to the theoretical teaching which they had received at Netley for guidance. It was a large order to attach them to regiments in war, and to hold them responsible for their sanitation.

The history of this sanitary failure will be found in the Report of the Royal Commission on the South African War, which



summarises its conclusions in attributing the unpreparedness of the medical department for war as being caused by the imperfect comprehension of the demands which modern warfare would make upon it, more especially in regard to sanitation. This imperfect comprehension was, in the first place, due to a want of knowledge, and in the next, to a want of thought; this statement will not, I think, be disputed, but there may be some difference of opinion as to with whom the fault lies. To this end a study of the Report will be helpful. The late Surgeon-General Jameson, who was the Director-General on the outbreak of the war, attributed it to a want of knowledge on the part of his officers and of the Army generally. He said: "If sanitation had been understood, not alone by our officers, but by the rank and file, and the military officers, commanding officers, I think it would have saved thousands of lives." What a lamentable confession this was for the head of a great department to make. It was the more so because, as will be presently shown, the cause was not the want of knowledge on the part of executive medical officers, but the want of knowledge and of thought on the part of the administrative medical staff which was responsible for the organisation and administration of the department on the outbreak of the war. If the evidence of Sir Charles Warren, which is taken from the same Report, be examined, a more correct appreciation will be obtained. He said:—

"From the purely medical point of view, the skill, zeal, and devotion to duty of our medical officers during the war is beyond all praise. From the sanitation point of view there is much to be desired. It never seems to be clear whether a camp is located according to strategic requirements or not, or to what extent the question of sanitation is to be considered. The result is, there were grave defects in the position of many camps. The duties of medical officers ought to be more clearly defined, and their responsibilities laid down."

After calling attention to certain specific instances of disregard of sanitary obligations, he proceeded to show that it was not the servant but the master, not the hand but the head, that deserved impeachment. He said:—

"I am convinced that typhoid fever does not belong of necessity to an Army in the field; its presence is usually a sign of neglect of some kind. Whenever real sanitary precautions are taken, typhoid fever is at once reduced to a minimum. If there had been efficient sanitary regulations in our Army, and if they had been attended to, I think that three-fourths or four-fifths of our losses from typhoid fever would have been avoided. I consider that our regulations have been retrograde in late years. It is impossible that a Provost-Marshal can look after such matters. His duty ought to be to look after others, and see that they do their duty, and not do the duty himself. The whole sanitary service requires recasting. It ought to be automatic, so that on starting a camp or bivouac anywhere, things should go straight."

By whose fault was it that there were no real sanitary precautions taken, and that there were no efficient sanitary regulations? Making

every allowance for the non-possumus attitude which the department has so often adopted, but which in this instance is hardly applicable, it was quite within the competence of the Director-General to have issued such orders to his officers as would have enabled them to act efficiently. He had the accumulated medical experience of former wars to guide him; what is more, the department had for many years, in service journals and elsewhere, been warned what the consequences would be in our next great war if medical officers were not practically instructed in sanitary duties. Truly, the position was a humiliating one, and all the more so because the department itself was much to blame in not making use of the powers, limited as they were, which it had. The fault really was, that sanitation for years had been neglected in relation to the soldier himself.

Had Sir Charles Warren belonged to the medical service and known the inner life of the department, he could not have more faithfully described its condition in 1899, though naturally he did not know that with the health control of the Army which then existed, it would have been impossible to have despatched a force of any magnitude from these shores without its taking with it the germs of enteric fever. This is a fact which the medical department persistently ignored, and which the military authorities were never asked to consider, for environment was looked upon as the great source of danger, and the person of the soldier was neglected. Yet the medical history of every great war in which the country has been engaged during the past hundred years gives the same warning. Again it is asked where lies the fault? It is ridiculous to foist it on to executive medical officers. It is a question of medical organisation, and the fault lies with those officers who were responsible for the organisation and administration of the medical service between the years 1882 and 1899. Mainly, indeed, does the fault lie with the Director-General and his advisers who held office between 1882 and 1889, for their action nominated the department and established a tradition, which their successors, even had they the knowledge, were not strong enough to overcome.

Imperfect comprehension! That is the curse which, like the sword of Damocles, hung over the department all those years, paralyzing its work. *De mortuis nil nisi bonum*, is a principle which obtains universal acceptance, and it will be so respected in the following observations. But I cannot help saying that those officers who allowed, if they did not recommend, the removal of medical officers from regiments without instituting an efficient sanitary service to take their place, were the real authors of the medical failure in the South African War and the loss of life and the suffering which it caused. It was the mistaken view which they took of the effect of short service on the health of the Army, and consequent liability to epidemic disease, and to a lesser extent of the requirements of modern warfare. The only excuse which can be made for these officers, whether they are now living or dead, is, that they had not the special knowledge which would have prevented them from adopting so mistaken a policy, for all the officers who were at the head of the department between the years 1860 and 1900 had no knowledge of sanitation as it was first taught in the Army Medical School, and afterwards generally in the Civil Schools and sanitary institutes of the country. It was the employment of these officers as sanitary experts in the field which



brought these appointments into disrepute; the facts are notorious, but it is the results which are important and which require consideration.

In the space at my disposal it will be only possible to give a few instances of the neglect of the internal causes of disease, which resulted from imperfect comprehension, and which has been so provocative of physical inefficiency. A short service army, raised by voluntary recruitment, is relatively not as healthy as an army which is recruited by conscription or by universal service from the whole manhood of the nation, and it is more liable to epidemic diseases in war. Notwithstanding, the department took no active steps to secure the health preparation of recruits before they began training, by regulating their diet and exercise, etc.; neither were the effects carefully watched, nor was advice given to modify the course to individual capacity.

The danger of personal infection, which is intensified when large bodies of men are gathered together in limited areas, was ignored, so that cases of tuberculosis were allowed to reside in barracks until they were invalided out of the service, and convalescents from enteric fever, while still capable of spreading the disease, were returned to barracks to live in the same rooms with their comrades; also there were no means for detecting the occurrence of contagious and infectious diseases before they became dangerous. It will be said that there were regulations which ought to have prevented this. Yes, there were regulations, but the organisation of the department was such that it deprived medical officers of the opportunity to make use of them.

Another instance will suffice; it is perhaps the most important of all because it applies to such a large moiety of the Army; it is the less excusable because all the facts should have been known to the officers who were primarily responsible for the health of the Army, and it had been officially brought to their notice. According to the Annual Medical Reports, the annual admissions for diseases of the digestive system in the Home Army, which consists mainly of young soldiers undergoing training, have been, for a number of years, from one-fifth to one-sixth of the total number, injuries being excluded. It is a fact which has long since been recognised by all competent observers that Armies which suffer to a great extent from diseases of the digestive system in peace time are specially liable in war to dysentery and enteric fever. Again, had these returns been compared, it would have been found that the causes of rejection of recruits on enlistment, and of the mortality and invaliding in the Home Army, have a common origin in defective nutrition. The medical department signally failed to consider these facts in relation to the physical efficiency of the Army, and to immunity from specific diseases; through lack of knowledge their import was not understood.

These are conditions which more or less impair the physical efficiency of all Armies, and which increase their susceptibility to epidemic diseases. Of no Army in Europe can this be said with greater truth than of the British Army through faulty organisation, that is the selection of the recruit. Optimists, who, in military affairs, are more numerous outside the Army than in it, will not admit this fault, but attribute it to racial predisposition, or to any other cause except the real one. It is difficult to say what constitutes immunity from enteric fever; it is admitted that a sound constitution,



good health, and a healthy environment, do protect an individual; but that race *per se* gives immunity is a mere conjecture. Such evidence as there is directly militates against this view. All competent observers are agreed that the immunity of adults in Eastern countries is purchased by the prevalence of the disease in infancy and in early childhood. The medical history of the British and American nations affords no proof that the Anglo-Saxon race is more susceptible to this disease than any other; what it does prove is, that owing to modern sanitary improvements in the environment of their populations, the sources of infection are diminished, consequently their Armies, consisting mainly of young soldiers, are especially susceptible to insanitary conditions on foreign service and in the field. The accounts which we have to hand of the health of the Russian and Japanese Armies in Manchuria lead to the opinion that the populations from which they are drawn are the survival of the fittest; but it proves more, not the least of which is the great saving to life which follows the adoption of a sound system of sanitation when intelligently carried out. The phenomenal immunity of the Japanese Army should teach the British nation the advantages which follow on the physical education of the young, and the preservation of the health of the Army in peace. Inoculation has been suggested as a means of protection, but, apart altogether from its utility for this purpose, it is questionable whether inoculation for a filth disease will ultimately tend to the good health of the individual and of the general community.

These are some of the health problems which await the A.M.D. for solution. Of their importance there can be no two opinions. We have seen how the British Army a few months after landing in South Africa was decimated by dysentery and enteric fever, and thereby rendered powerless for effective action. We know that in consequence, Lord Roberts, after his arrival at Bloemfontein, had to remain inactive, to the detriment of the Empire. Endurance and immunity from disease are the two physical qualities upon which the military efficiency of armies depends. Could the general officer commanding an army in the field be guaranteed these, what a power it would give him. To give the army that endurance, and to secure that immunity from disease is the task which now lies before the R.A.M.C.; that it is not an impossible one the experience of the Japanese medical service bears witness. It is because I believe that the work now being done by it will have this effect that I have laid bare the skeleton which lies in the closet.

It is the curse of war that an army carries with it the microbes of disease, and itself makes those insanitary conditions which foster their growth and dissemination; it is in this way that the internal and external causes of disease act and react on each other. In South Africa both dysentery and enteric fever were endemic, so that the Army was exposed to a double dose of original sin; but what is of immediate importance is that the Army, as it is now organised, could not take the field for more than two or three months without enteric fever becoming epidemic, even under the most favourable local and climatic conditions.

The lesson which this teaches is a simple one, and it is because it is so that it has been so persistently neglected by the A.M.D. Its failure hitherto to prevent epidemics in war is due to the too limited view it has taken of their origin; it has busied itself with the

external causes of disease and neglected the internal. It has attacked the outworks, but it has left the sources of the disease untouched; it is the Army itself and the person of the soldier to which it should have primarily devoted attention. But in all human affairs there is the tendency to over-estimate the value of some particular circumstance. We have recently witnessed an instance of this tendency in the discussion which took place in the Royal United Service Institution regarding the causation of enteric fever in war, for one particular cause was singled out to the exclusion of others, which are in no whit less important. It cannot be too strongly urged that it is the rapid interplay of all the causes of disease, internal and external, which is so fatal to health; to neglect either is equally perilous.

This spirit of exaggeration or tendency to magnify one set of causes at the expense of others is seen in some of the schemes of army sanitation which have been placed prominently before the public, but it is not in army medical affairs only that its evil effects are found. Colonel Henderson thus refers to its influence on modern tactics, and we know how, with a credulous public, it has dominated army reform. He said:—

“Military criticism takes a long time to recover its equilibrium.

The practical effects of a new explosive, an improved firearm, or a novel formation, no matter what the circumstances, are sufficient to drive it to extremes.”

Hence the endeavour is now made to show that the health control of the Army must begin with the individual, and from him extend to those external conditions which he himself produces, or to which he is by service exposed. If this view obtains acceptance, it follows that to make the health control of an army effective, three conditions are essential, namely, self-control on the part of the soldier, co-operation on the part of his officer, and medical supervision. The discovery of the internal causes of disease is unquestionably the duty of the A.M.D., and so is the initiation of preventive measures, whether they are designed for the preservation of individual health, or the prevention of epidemic disease, so that whatever is the agency which may be employed to carry them out, the A.M.D. must be the predominant partner.

Self-control is not inborn in the soldier; it has to be developed by education and by example. Hence from the A.M.D. he should receive instruction in all matters relating to health, in which his officers should co-operate; but co-operation to be useful must be intelligent. Therefore, both officers and men will require instruction in military and personal hygiene, which will necessitate the closer association of the medical service with the Army. For these reasons I have, during the past twenty years, consistently advocated the appointment of medical officers to regiments in peace as well as in war, and that each regiment or corps should be the unit of sanitation. It is on these lines, or as nearly as possible, that the Army Sanitary Service should be organised, because its usefulness depends upon its being an integral part of the A.M.D., not a separate corps, which has recently been suggested. A separate corps would only add to the difficulties of the medical service by creating friction, and by still further estranging it from the Army; but as it is the continuous health supervision of the regiment which is required, the creation of a separate corps does



not seem the readiest way of securing it. If the military and medical authorities would only consider the question in relation to the physical efficiency of the Army in war, there can be little doubt of what their action would be. It has been thought out by the War Departments of foreign Armies, and they have been unable to devise a better unit of sanitation than the regiment; they employ the flower of their manhood in their Armies, yet they consider this health protection necessary, while the British Army, which is recruited from the least physically fit of the nation, and which is exposed in foreign service to unhealthy climates, and to endemic diseases, is denied it!

At this stage it will be convenient to enquire what are the measures which have been taken since the South African War to improve medical organisation in relation to general sanitation and to health control, and to see to what extent they conform to the foregoing principles. There are four principal measures: the first is the appointment of the Director-General as President of the Army Sanitary Committee, thus identifying the medical service in a more direct and active form with army sanitation, and according to the Director-General, powers commensurate with his responsibilities. This measure is all important, because once a question is referred to the committee, and its decision is given, there can be no difficulty afterwards in fixing the responsibility. Heretofore this was impossible.

The second is the appointment of expert sanitary officers as sanitary advisers to the P.M.O. of commands or districts. It was one of the pleasant fictions of medical organisation before the war that the P.M.O. of a command was its sanitary authority under the orders of the G.O. commanding. Theoretically that was so, but there was something more wanted than an ill-defined official position to make that authority of value. However, it is with the actualities of the present that we are now concerned. The duties of officers holding sanitary appointments include their making themselves acquainted with all matters relating to the sanitary conditions of barracks, camps, etc., in the respective commands or districts, and of all influences affecting, or likely to affect, injuriously the health of the troops. For this purpose they will make systematic inspections of stations, barracks, and camps, etc., also of the troops. They will enquire into the cause, origin, and distribution of diseases in their districts, and how far dependent on preventable causes; in the case of infectious disease, they will advise as to preventive measures. They will advise locally on all schemes relating to buildings, water supply, drainage, sewage disposal, etc.; they will make such chemical and bacteriological examinations as may be necessary, also periodical examinations of the drinking water supplies of the stations, and they will test the food and drink supplied to the troops. They will advise on all sanitary questions referred to them by the P.M.O. of districts, such as questions relating to ventilation, lighting, warming, food, clothing, physical training of soldiers, etc. They will give courses of sanitary instruction, and encourage in every way the diffusion of knowledge of practical sanitary procedure among officers and men in relation to the training of the troops, methods of water sterilisation, sanitary cleanliness of barracks and camps, disposal of refuse, care of latrines, etc.

The third measure, which was instituted early in 1905, is the appointment of medical inspectors of recruits to each principal command at Home, and one to the London District. Each medical inspector is responsible that the recruiting medical officers in the



command perform their duties intelligently and with judgment, and that the physical standards for the Regulars, Militia, Yeomanry, and, so far as possible, for the Volunteers, are maintained. When necessary, he personally instructs the recruiting medical officers, and by personal observation he satisfies himself that they understand the requirements of the service. He advises what physical training the recruit is capable of undergoing, and he reports to the P.M.O. of the command those recruits who are not likely to make efficient soldiers. In brief, this health supervision will enable him to say whether the system of drill and training is producing the healthy physical development of recruits, or whether in certain cases it is too severe and that under the strain they are likely to break down. This endeavour to prevent damage to health during training is for the first time a reality, not a mere paper regulation, which it was since the introduction of short service, though the consequences were officially reported to the Director-General in 1884.

The creation of the Royal Army Medical College is the fourth, and it is the complement of the other measures, for it will bring the R.A.M.C. abreast of the current medical and sanitary knowledge of the day. As the subjects which are taught are specialised, it will enable medical officers to attain an excellence which would be otherwise impossible, for they can choose those subjects for which they have a special aptitude, instead of being forced to squander their energies over too wide a field.

All these measures, however, would be of little avail without the intelligent co-operation of both officers and men, therefore, the recent news in the public press, that a school of military hygiene for officers, non-commissioned officers and men is shortly to be opened by the medical department at Aldershot, and that cooking classes for non-commissioned officers and men are to be formed at various stations, is gladly welcomed. It is a blot on our system of national education that personal hygiene and domestic economy have been so long neglected, but now that public attention has been aroused, and so much interest is being taken in the physical well-being of the people, it may be hoped that Government action will soon be taken.

These measures do not exhaust the good work which is now being done by the department. Both by experiment and by practice it is endeavouring to solve many of the problems with which it will be confronted in war. The question of a pure water supply in the field is all important, but it is manifest that the same arrangements are not possible for a force in constant movement, and for troops occupying fixed sites, and standing camps on the lines of communication; that troops in the fighting line can be supplied with a sufficient quantity of drinking water which has been sterilised by boiling is an absolute impossibility, whereas for troops in fixed camps, etc., there is no such difficulty. The experiments which the A.M.D. is now conducting will, it is hoped, solve the question not by discarding any one particular method, but by choosing that which is best suited to local circumstances.

Other experiments are being conducted which relate to the destruction of surface refuse; the results will be watched with interest, for if the sub-soil pollution of camps can be prevented by scavenging, and by the destruction of all organic refuse, armies in war will be saved from one of the most potent agencies in the dissemination of enteric fever, and to a lesser extent of dysentery. But at the same

time means must be found to render innocuous the foul water from kitchens and from all other sources. Experiments in England cannot be satisfactorily made for the collection and disposal of sewage under the conditions to which armies in the field are exposed, but the sewage problem of Indian cantonments is, in many respects, similar, so that it is hoped the attention which the Indian authorities are giving to the question will yield results which can be used for this purpose.

If the work of the medical service at the present time be compared with what it was before the war, how beneficent appears the change. But that is not all; it is the different spirit which animates the department which deserves recognition. On the part of junior officers it is one of scientific enquiry, and of strenuous endeavour to secure the health efficiency of the Army and to prevent disease, and on the part of senior officers it is the welcome they accord to the suggestions of their juniors, and thereby to supplement their own experience, which contrast so favourably with the spirit which dominated the department in the past, when, to point out a departmental error, or to offer a suggestion to promote the well-being of the soldier, or to effect a timely saving, was treated as a departmental offence. This is no idle assertion, it is a fact well known in the department.

This change in the attitude of the department to its officers is, in the first place, due to a keener sense of right and wrong, and of public duty on the part of the responsible authorities; but it is not with this side of the question we are now dealing; it is the effect which it will have on the preservation of the health of the soldier, and the prevention of disease in war, to which attention is now directed, for it follows that the health control of the Army becomes its chief duty; not limited, as before the war, to the mere treatment of the sick, to which in war the care of the wounded was added. The experiences of the South African War have burned into the department the lesson that it must be more closely associated with the Army, if the physical efficiency of the Army is to be its first consideration, for in no other way can health control be made really operative.

There are only two ways by which this association can be made effective: one is by posting medical officers to regiments and making the regiment the unit of sanitation, as already suggested; and the other is by posting medical officers to stations and parcelling out the work between them. The former gives continuous health control, and it is the system which must be kept up in war. With the latter the control is partial, and it is only possible during peace. In discussing this question some of the most progressive officers in the department have acknowledged that, had the responsible officers in 1882 foreseen events as they afterwards occurred in South Africa and in India, the present organisation would have been modified so as to give the soldier greater health protection.

The ideal arrangement of course would be to appoint medical officers to all regimental units, but it is recognised that the recent changes in medical organisation, to which attention has been called, materially alters the situation. Besides the supervision of the health of the soldier, it was the educational effects it would have upon medical officers, which made me so importunate in my advocacy of this measure; but in regard to battalions on the Home Establishment, it is believed that another arrangement can be made with advantage

and without any sacrifice of principle. At the present time the majority of the troops serving at home consist of young soldiers, either under the age, or not physically fit to proceed abroad; also it must be borne in mind that it is from these young soldiers, under one year's service, there is the largest admission rate into hospital during any period of their service.

Instead, therefore, of attaching medical officers to regiments serving at home, it is proposed that an officer of the R.A.M.C. should be appointed to each regimental dépôt, to which the recruits of their respective regiments should be sent and remain there for one year, to undergo physical training and drill. In this way the health of the young soldier will receive careful supervision, and the officers of the R.A.M.C. will gain an experience of military affairs which will stand them in good stead in the field. To all corps on foreign service medical officers should be appointed to supervise the health of the men, and to advise on all sanitary matters; they would also perform medical work in station hospitals. Sir Thomas Gallwey, P.M.O., H.M.'s Forces in India, has acted on this principle during the past four years, and he recently called attention to the good results which have followed; besides the health advantages to the troops, the familiarity with army sanitation which the R.A.M.C. would gain would be invaluable in war.

In conclusion, I must express the pleasure which it has given me to witness this great change in the attitude of the department to the health of the Army, and in the spirit which animates it. That the measures which are now being taken by the Director-General will lead to the greater physical efficiency of the Army, and to medical preparedness for war, there can be but little doubt. In this belief I bring this paper to a close, and wish the R.A.M.C. God-speed.



# A NEW TACTICAL SYSTEM APPLIED TO THE RUSSO-JAPANESE WAR.

*By Rear-Admiral JACOB BÖRRESEN, Chief of the  
Norwegian Naval Staff.*

IN the JOURNAL of the Royal United Service Institution, March issue for 1903, I wrote an article on a new tactical system based on the dividing of a squadron into semi-independent divisions in order to

“Enable the Commander-in-Chief to concentrate an overwhelming force on part of the enemy.”

Will you allow me to recapitulate the theories put forth in that article and see how far they can be applied to the two famous sea battles in the last war—the 10th of August, 1904, and the 27th of May, 1905?

The theory is most easily derived from the example given on p. 332 (March, 1903):

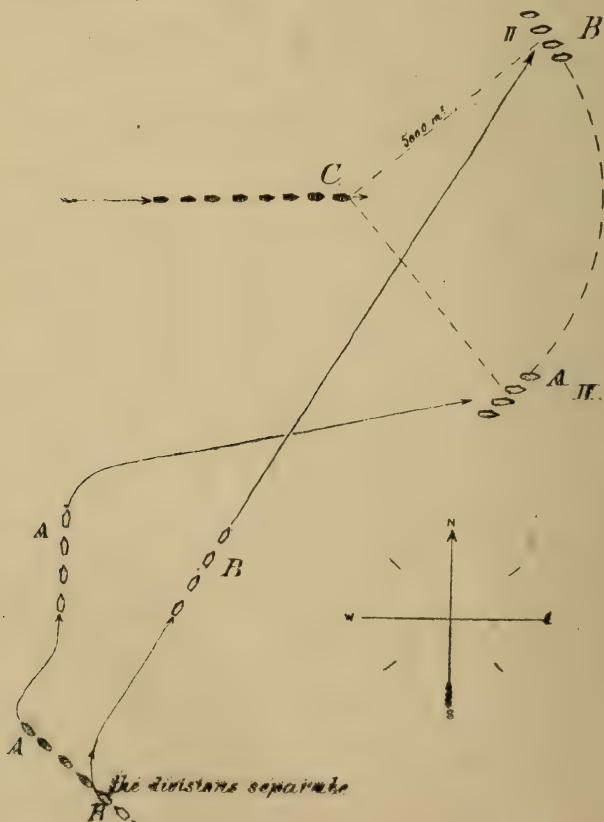


FIG. 1.

"The White Squadron (A B), coming from the south (see Fig. 1) divides, on sighting the enemy, into two divisions (A and B), A giving orders to B to take up position II. north-east of the enemy, with the head of the hostile squadron as a centre, radial distance to the enemy to be kept at 5,000 metres.

The Black Squadron (C) steers for the gap between the two divisions with the old-fashioned idea of cutting off one from the other.

B immediately takes up a north-easterly course and steams as fast as she can to get ahead of C, towards her position; whereas A quite leisurely steers northward and then eastward to take up position IV. In about 40 minutes the formation is made, and the two divisions (A and B) steam along on a course parallel to C and with the same speed, each division commander taking care well of distance and fleet angle (angle C A B).

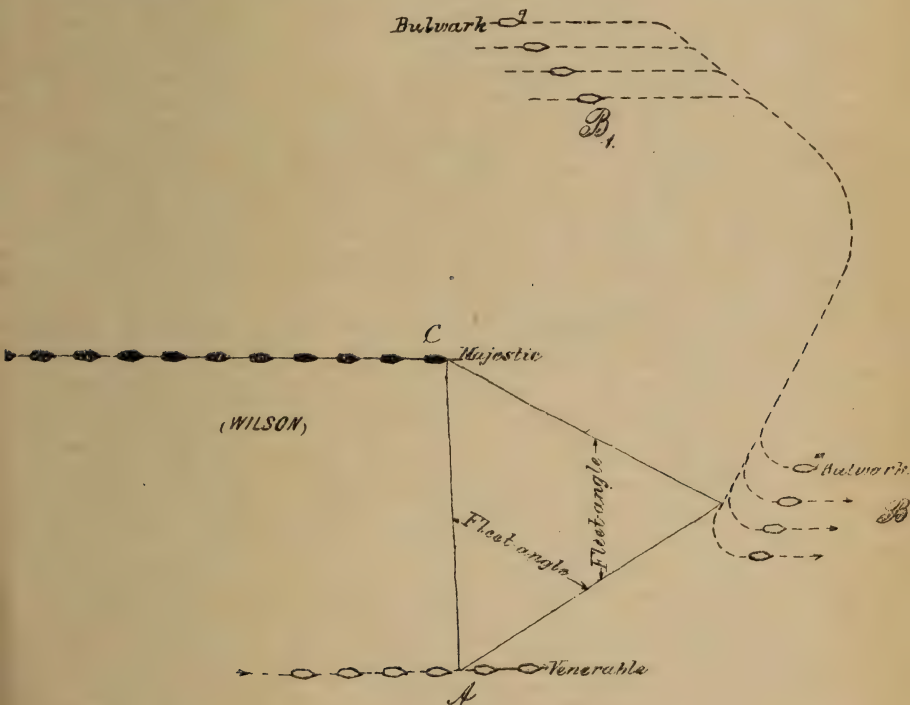


FIG. 2.

If A B have torpedo craft at their disposal or swift cruisers with torpedo armament, they ought to be disposed at a safe distance in the enemy's wake (somewhere about D) to prevent him from turning."

In the above-mentioned article I considered it most correct, from a theoretical point of view, for A and B to form in a line of bearing perpendicular to the radius from the respective divisions to the tactical centre (the head of the hostile column). Practically it is easier—and may be just as good—for both divisions, as long as they contain only a few vessels, to form in line ahead. It does not materially alter the system, and these formations are easier to keep and to lead.

These theories I tried to apply to the British tactics in 1903 near the Azores, in an article in "All the World's Fighting Ships" for 1904. This battle was fought in the old-fashioned way in two long lines ahead that passed along each other, pouring their broadsides ingloriously into one another.

Admiral Domvile, having the higher speed, got ahead of Admiral Wilson, but still continued in line ahead, which had the effect that his rear vessels were badly treated by Admiral Wilson.

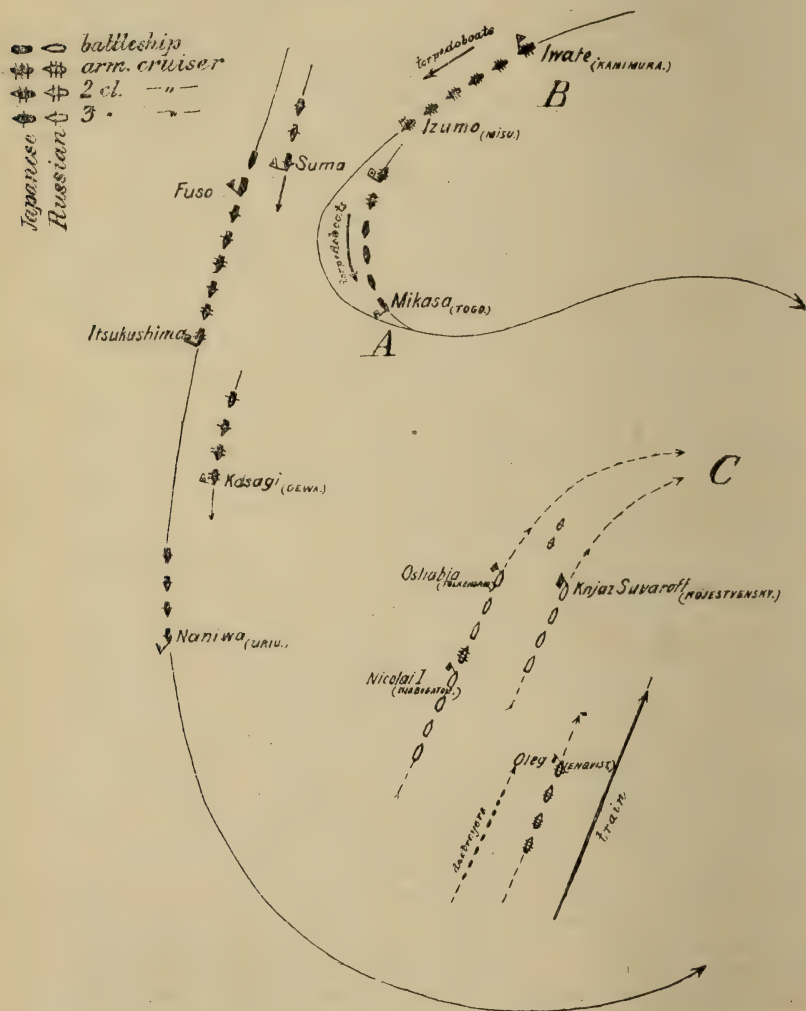


FIG. 3.

I therefore suggested that Admiral Domvile might have divided his long line into two semi-independent divisions, as shown in Fig. 2, which would have given him a better opportunity of concentrating his fire on the head of the enemy.

The positions A and B (Figs. 1 and 2), on the circumference of a circle drawn round the head of the hostile line are ideal positions for



concentrating the fire on the leading admiral, for torpedo shots from the B Division, as well as for unexpected cordal movements (as from B<sub>1</sub> to B), with B's whole broadside turned on the enemy's head vessel.

I was very sorry to see afterwards that a reviewer in the *Standard* seemed to find my tactics rather strange.

In the Japanese tactics during the above-mentioned two days, the triangles A B C will be found repeatedly, A and B spelling Togo and Kamimura, and with deadly effect on the poor C.

In the opening of the battle of 27th May, Admiral Togo (see Fig. 3) took his own and Admiral Kamimura's squadrons in semi-independent divisions formed in line ahead, across the course of Rodjestvensky's fleet and ahead of it, trying to keep them in this position and manœuvring so as to hold the head of the Russian columns under a cross-fire—in a C position.

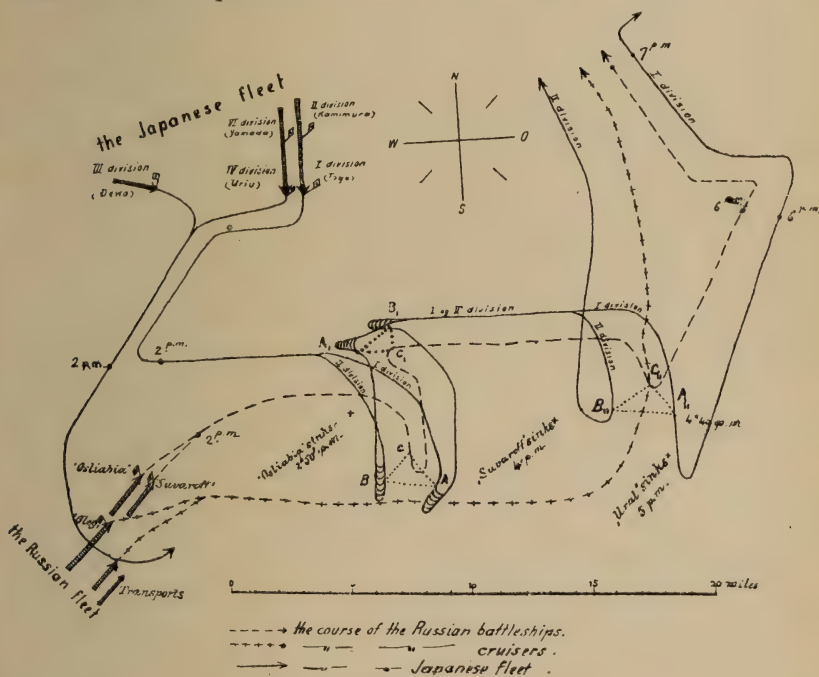


FIG. 4.

And the light cruisers of the Japanese fleet were directed southward to attack the enemy's rear (see Fig. 3; compare position D, Fig. 1).

At half-past two the leading vessel of the left Russian column, "Osljabia," began to sink, while the two foremost vessels in their right column, "Suvarov" and "Alexander III.," broke out into flames. This was the effect of the concentrated fire on the tactical centre (C).

Fig. 4 is a diagram of the battle taken from "Mittheilungen aus dem Gebiete des Seewesens" for 1905, p. 741. "It was Togo's plan," says the Austrian Magazine, "by his own, Deva's, and Uriu's squadrons, to keep the Russian fleet in the centre of a circle, on the circumference of which his squadrons circled round it, keeping their respective positions and at a distance of about 3,500 metres from the enemy."









In the *Edinburgh Review* for October, 1905, p. 320, I find the following remark:—

“Kamimura manœuvred (in the battle of 27th May) so as to bring his armoured cruisers temporarily into a line nearly at right angles to that formed by the Japanese battle-ship division. The Japanese, as it were, moved for a time along two sides of a square, the Russians being within the re-entering angle thus formed, and being consequently cannonaded from two quarters”—

a remark that applies to the theories put forth in the semi-independent divisions tactics (see Fig. 1, this article).

Let us now consider the case if Admiral Vithofft (C), about 2 p.m. on 10th August, had done something to shake off his enemies, for instance, turned northward to try to isolate and attack the Second Japanese Division B<sup>1</sup> (Fig. 7).

According to the rules laid down in the oft-quoted number for 1903 of the JOURNAL of the Royal United Service Institution, the two Japanese (B and B<sup>1</sup>) divisions would have swung round the same way—to nearly parallel course—while the A Division would have steered for Vithofft's rear to get her broadside to bear on his last vessel.

I illustrated this case in 1903 by the following figure, the idea of which was based on a “hoop and beam” rule, viz.:—

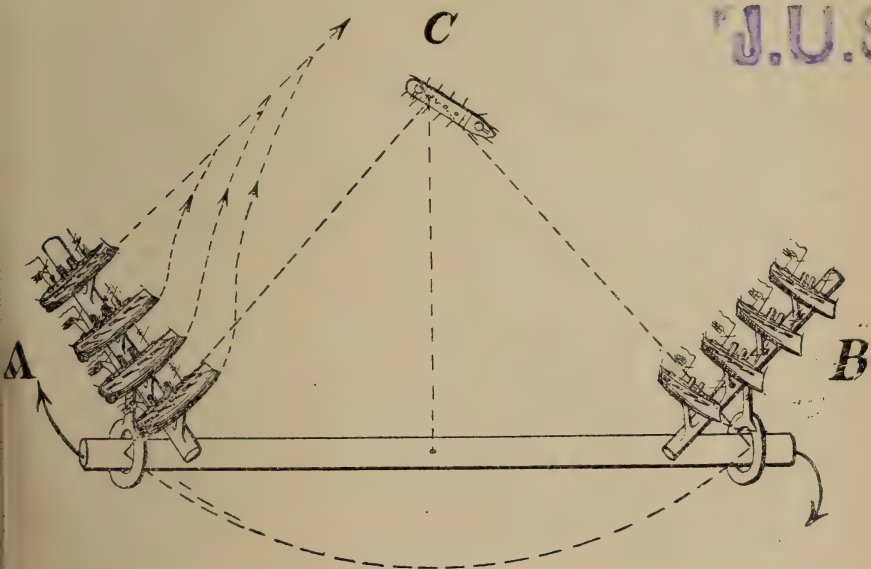


FIG. 8.

(No. for 16th March, 1903, p. 331.)

“In order better to understand the necessary co-operation between A and B in their manœuvres with C as a centre, we will consider them both pivoting on two hoops (Fig 8) sliding, one division on each end of an immense beam, which the two divisions drag along with

them, and which always must be swung, by A round B or by B round A, so that a line drawn perpendicular from the middle of the beam runs through C."

As already mentioned, the divisions in my original figure were represented as being formed in an oblique order, a line of bearing, perpendicular to the radius from C, which is, theoretically, more correct; but it seems that the Japanese have preferred to move about in line ahead, which simplifies matters a great deal without altering the theory.

Will you allow me in a later article to lay down the practical rules for keeping the A B positions on the tactical circle, leaving out the unnecessary and troublesome theories of 1903, and especially studying these tactics when both opponents divide their squadrons the same way?



## SOME LESSONS OF THE RUSSO-JAPANESE WAR.

*By Général DE NÉGRIER. Translated by permission from the  
"Revue des Deux Mondes."*

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WE are now acquainted with the principal reports of the officers who, attached to the Russian and Japanese General Staffs, followed the operations, and in the information they give, as well as their comments, they show a wonderful amount of agreement. Tactical studies will, then, rest on a solid basis, and we shall not see reappearing the old objections to the lessons of the South African War, from which, according to some people, there was nothing to be learnt.

We have just been witness to a great war. Such an enormous number of effectives engaged, with the employment of weapons brought to the highest state of perfection, has never before been seen. The war has been carried on in both densely-populated regions and regions almost deserts, on the plains and among mountains, under the heat of a torrid summer and the snows of two rigorous winters. The siege of a fortress, on which the whole art of the engineer had been expended, battles which have sometimes lasted several days—nay, even some weeks—permit us to realise what the fighting of the future will be. The material points are now settled, and as time presses, since the most pacific nations may be drawn into war with very short notice, it is useful to set forth from now what it is advisable we should apply without delay. We must not run the risk of appearing on the field of battle with out-of-date methods of fighting.

We may at once record that the tactical lessons of the South African War have not only been confirmed, but still more emphasised, principally as regards the great extension of the fighting front. The fronts rendered very strong by the power of the arms and the employment of field works, have been difficult to force, even by intrepid troops, perfectly ready to give their lives without counting the cost. The efficacy of enveloping movements is definitely established, every time that the enemy has been held to his positions by vigorous attacks, stubbornly repeated. Night actions, formerly almost exclusively employed during sieges, which, however, were frequent in the Transvaal, have now become of common practice in field warfare. On the other hand, chance encounters have been more rare. Circumstances, which are rather out of place for discussion in a tactical study, have constantly induced the Russian Army to cling to certain positions—a grave fault, which the energy of counter-attacks failed to repair.

In order to judge the whole of the tactical methods employed, it is necessary to consider separately the action of the different arms. The new conditions of their employment will be deduced from them.

What hopes were not founded on the Russian cavalry by the friends of that country? Why have they been disappointed? Was the cavalry not properly mounted? Its superiority was, nevertheless,

indisputable. Superior in numbers, in the quality of the horses, technical instruction, the traditions of its old regiments, it could act with complete freedom. The Cossacks, everywhere quoted as the type of Light Cavalry, were to envelope the enemy in a net of supple meshes, leaving no movement of his unperceived. According to the doctrines prevalent among European cavalries (England excepted), the Russian cavalry, masters of the country, independent in its movements, armed with carbines, provided with horse artillery, had every facility for keeping continually in touch with the enemy, retarding the march of his columns, harassing his convoys, cutting his lines of communications, and playing an important rôle in battle. Its impotence has been a subject of astonishment. It was inevitable, for two reasons: Very mediocre instruction in musketry, and artillery powerless against villages or field entrenchments. The Russian cavalry is, nevertheless, much in advance of those of the Continental Powers. It has for a long time past understood that, being essentially the arm of the *offensive*, fire-attack becomes its normal mode of fighting, since opportunities for mounted attack do not often present themselves. Thus all the Russian horsemen are, as a matter of fact, dragoons. But, with this order of ideas, this cavalry has not gone on to the logical consequences. Its organisation should have allowed of its accomplishing everything that one has a right to expect from infantry. What decisive services might it not have rendered if it had been inspired like Sheridan's cavalry at Cedar Creek in 1864! Let us look at it at work.

In the *Revue des Deux Mondes*, of the 1st March, 1904, we find the following remarks:—"If, as is to be expected, the cavalry has to reckon with an enemy which, whether on the march or in camp, covers himself with a screen difficult to pierce, then it can only indicate the apparent outlines formed by this screen at a particular hour of the day, without being able to determine its composition or force. Unless the other arms are brought into action, one cannot demand more of it." And further on:—"The screens are formed of fighting groups, generally with a weak effective, but comprising the three arms in variable proportion, according to circumstances and the nature of the country. These groups hold all the network of roads in the direction of the enemy, and cover the flanks; they thus create, at a considerable distance round the army, a very extended zone of security, inside of which the Commander can move his troops, change the direction of their march; in a word, manœuvre them without the enemy being able to take note of what is going on. The groups on the wings, which the Commander can *échelon* at will, can thus as easily facilitate the envelopment of the enemy as oppose his attempts."

What did the Japanese do?

A French report dated from Liao-Yang, 9th July, 1904, says:—"The mixed detachments of varying strength form round the army a screen almost impenetrable to cavalry. They are composed of 20 to 40 horsemen, and a half-company, with one or two companies following up. They are sometimes accompanied by artillery. In the mountainous region of the Yalu, the Japanese in this way occupied all the passes and roads. In the south, at the beginning of the months of June, they thus occupied thirty-six villages, from Pitzévo to Polandiane, forming a screen which permitted them to hide their movements from the Russian cavalry, and prevented their reconnaissances from obtaining information useful for their own forces. It is thus



that the concentration of the Japanese forces before Vafangou, on the 14th June, was not known, and that the turning movement in force, carried out at a considerable distance on the 15th against the Russian right, could not be prevented. It was also behind this screen that, a few days later, the Japanese army slipped away to the south of Gäitchon. The detachments of cavalry which succeeded in passing through the meshes of the net found the route barred on their return, and on more than one occasion themselves surrounded by infantry and in a critical situation, without having completely succeeded in their mission. On the other hand, some reconnaissances carried out by only four or five horsemen managed to escape the vigilance of the Japanese, and to furnish very useful information to the columns and camps. The result of this system has been that the Russian cavalry, in spite of its great superiority in numbers, had very rarely an opportunity of using either sabre or lance; but from the beginning of the war, scarcely a day passed without their having had to fight dismounted. All the squadrons have had to do this several times already."

Often this fighting on foot took an offensive form; but, failing a sufficiently powerful artillery, the screens could not be pierced, and therefore the reports were insufficient. On the other hand, with some rare exceptions, the Japanese cavalry constantly took shelter behind its infantry; so the Russian reconnaissances, received with fire, were obliged either to keep at a distance and see nothing, or, dismounting, to attempt to gain some information by engaging in action. With regard to keeping in touch with the enemy and ensuring security, the Russian cavalry showed itself equal to the occasion. It was a patrol of Cossacks which, in Corea on the 28th February, 1904, close to Phen-Yang, fired the first shots of the campaign. On the 25th March, near Chengjou, seven weeks after the commencement of the war, the first serious engagement between a mixed detachment of Japanese cavalry and infantry and 700 men of the 1st Transbaikal Cossack Regiment. This was solely a musketry fight. On the 12th May a detachment of Japanese cavalry dismounted and attacked Silouanchan; there was no artillery with them, and they were repulsed. In their turn the Russians attempted the offensive on the 20th May in the direction of Changton; two regiments of cavalry dismounted and attacked the village of Changchou, on the right bank of the Liao, some 13 miles south of Fakoumen. The fighting lasted two hours; the Russians had only machine guns with them, and they were repulsed with a loss of 300 men. But let us leave the skirmishes and examine the important operations.

Let us commence by admitting that the Russian cavalry has shown itself brave and active. If, in regard to fighting and obtaining valuable information, it was not able, for want of a proper organisation, to render the service expected of it; on the other hand, it succeeded in guarding the army against surprises and keeping constantly in touch with the enemy. The operations of the cavalry of General Samzonoff, after the battle of Vafangou (Télitzé, according to the Japanese), are, from this point of view, particularly interesting.

Let us briefly recall the situation. The Great Mandarin Road, leading from Port Arthur, some 262 miles to the north, ran side by side with the Manchurian Railway—a unique line of communication for the Russian army. It passes by Nanchan-Chinchou, 37 miles from Port Arthur; Télissou, 87 miles; Kaïping, 137 miles; Tachichiao,



150 miles; Haicheng, 168 miles; Lyao-Yang, 218 miles; Chaopou, 242 miles; Mukden, 260 miles. The battle of Nanchan-Chinchou, won on the 25th May, 1904, by General Nogi, cut off Port Arthur from the Manchurian army. General Kuropatkin, very rightly, wished to abandon Port Arthur to its fate, and concentrate his forces about Tachichao, the junction of the Pekin-Mukden and Mukden-Port Arthur Railway, in order to manœuvre between the army of General Oku, which was moving north along the railway, and Kuroki's army coming from Corea and marching on Lyao-Yang. For reasons still unrevealed this project was given up, and it was decided that Port Arthur should be relieved. General Kuropatkin was thus compelled to move a large part of his forces on Vafangou. They were attacked there on the 14th and 15th June by General Oku and beaten. After the battle the 1st Siberian Corps was hastily retired, first by two night marches on Vanzeline, then on Sénoutchen, and from there in two columns on Kaiping.

General Samzonoff, an active, vigorous man of forty-six, succeeded in getting in touch again with the enemy on the morning of the 16th June. His cavalry followed a strong rear-guard of a brigade, and covered itself by advance posts placed at  $3\frac{1}{2}$  miles from his main body. On the 19th June his force was composed of six squadrons of dragoons, six sotnias of Siberian Cossacks, three sotnias of Frontier Guards, a commando (the term used in the Report) of Mounted Scouts, the 13th Regiment of Siberian Chasseurs à pied, and the 3rd Battery of the Trans-Baïkal Cossacks. The squadrons were from 80 to 90 men strong, the sotnias of Cossacks from 90 to 100. The duty was severe, because this cavalry, in touch night and day with the enemy, could get no repose. The men asked for the support of an infantry force in order that they might get some sleep under shelter from surprise; they were told they had to maintain their position between the enemy and the rear-guards of the columns. On the 20th June, seven officers' reconnaissances were sent out. They reported a turning movement by three battalions and 14 guns. General Samzonoff sent off all his train, only retaining some pack animals. The advanced posts were firing all night, the men remaining in the saddle until 2.30 a.m., and retiring slowly on the 21st. The Japanese advanced in three columns, the strength of which could not be ascertained. Their cavalry remained under the protection of the infantry, and they continued to cover themselves while on the march as in camp by a network of groups of infantry and cavalry, which the Russian patrols could not succeed in piercing. Some officers and Chinese spies alone succeeded in obtaining any information. On the 23rd there was another retreat without fighting, but a strong patrol, consisting of a half squadron, taking advantage of some broken ground, was enabled to surprise the horses of a dismounted Japanese squadron and kill a large number of them by a volley. On the 21st there was a fresh retreat. On the 25th a dozen patrols were sent to the front. On the 26th June, Prince Jaimé de Bourbon brought an order from the 1st Siberian Corps directing an immediate reconnaissance to be made towards Sénoutchen. Three sotnias were despatched, which left at 3 a.m. Three Japanese squadrons appeared in front of the Russians, then made a half circle in order to draw them towards Sénoutchen, where, according to Chinese spies—the only reports it was possible to get—there were 12 Japanese squadrons and 3,000 infantry.

On the 21st, General Samzonoff received orders to seize S  noutchen. He left at 3 a.m., and attacked on foot, but his artillery was powerless against the village defended by the infantry, and, the attack failing, he fell back at 9 a.m. On the 28th he withdrew on Baovidja  . The weather was very bad, but in spite of extreme fatigue, the *moral* of the troops was not affected. The 29th and 30th were quiet, because the Japanese did not advance further, but entrenched themselves. At last infantry were brought up and the cavalry were able to get some rest. The Japanese did not take the offensive until the 6th July.

Thus General Samzonoff's cavalry had taken twenty-three days to fall back 37 miles, sometimes retreating, sometimes advancing, always hanging on to the enemy, watching his movements, but unable to obtain sufficient information on which to form a plan of operations. It was sometimes found 18 miles from the columns, and it was often hampered by the fact that its line of advance posts, and sometimes even its halting places, were fixed by the General Commanding the 1st Siberian Corps. When, during the interval of time which elapsed between the issuing of the orders and their reception, the conditions had changed, the situation became very difficult. Even when the infantry was in his proximity, General Samzonoff could not rest his horses, because his orders were to keep his cavalry always in advance of the infantry. Units remained sometimes seventy-two hours without unsaddling. In all these operations the cavalry could only act as mounted infantry; but with insufficient musketry training, and having only very light artillery, it could never pierce the Japanese screens. It is necessary here to point out that the Russians had put in practice Napoleon's precepts, quoted in the *Revue des Deux Mondes* of the 1st March, 1904, relative to infantry scouts. Each regiment formed a group of 140 men, mounted on small horses, so that it was not necessary to detach cavalry to do the divisional duty. We shall return further on to this important question. The group of mounted scouts of the 13th Regiment of Siberian Chasseurs, which were cut off from Port Arthur when the Japanese disembarked to the south of Pit-se-vo, had joined General Samzonoff, and rendered signal service. Composed of picked officers and men, rapidly war-hardened by continual contact with the enemy, it operated with skill. Its Commander deployed it over a wide front, keeping no reserve. Each of its three sections, which originally were dependent on the three battalions of their regiment, fought with wide intervals between each other. Their chain of skirmishers, provided with 300 cartridges per man, composed of good shots, trained by experience, knew how to utilise the ground and man  uvre by signals. This troop, termed a commando, after the Boers, fought successfully on the 14th and 15th June at Vafangou, against superior forces, without incurring serious loss, and, although mounted on horses of small size and with small powers of endurance, they showed themselves superior to many of the squadrons of cavalry.

"The difficult problem was, then, to obtain information. The patrols came into collision everywhere with infantry or dismounted cavalry. To throw oneself with a column more or less strong against the line in order to force it at a point which might seem to offer a favourable chance, was an enterprise so dangerous that it could not be carried out. It would almost infallibly have led to the loss of the column, which would have been soon entangled in the meshes of the net. Some



fortunate attempts soon led General Samzonoff to ascertain that one or two persons penetrating by themselves up to the centre of the enemy's lines brought back to him the most accurate reports. The composition of his troops allowed him easily to find resolute and experienced volunteers, who, scouting in this way, generally returned bringing back useful intelligence. With regard to keeping in touch with the enemy's screen, it was maintained by strong scouting patrols of 12 or 15 mounted men, who left in the evening and crossed the line of vedettes during the night. This service was supplemented by Chinese spies recruited by interpreters in the villages." But a system of espionage thus organised at the last moment is not of very much value.

The different modes of activity for cavalry come under one of the following categories:—

1. Obtaining information.
2. Attacking lines of communication.
3. Their *rôle* in battle.

We have seen what the Russian cavalry were able to accomplish in the way of obtaining information; let us now examine what they effected against the enemy's lines of communication. During the War of Secession, these sort of operations were called "Raids."

After the battle of the Shaho, terminating on the 21st October in a defeat, the Russians fell back on Mukden. The Japanese army, keeping in touch, had thus to prolong its line of communications. Its supplies came for the most part from the port of Yinkow (Newchwang), some 100 miles to the south-west of Shaho-pu. In the month of January, all the water-ways being frozen, General Kuropatkin determined to make a raid on these communications by launching a large force of cavalry on the rear of the Japanese. A force of about five thousand mounted men, accompanied by horse artillery and mounted detachments of engineers, was placed under the orders of General Mistchenko. On the 8th January he crossed the Hunho, passed round the left of the Japanese screen, and marched south across the vast devastated plain of the Liaho. His force was in three columns, commanded respectively by Generals Samzonoff, Abramhoff, and Tyeleschoff. The front covered about 5 miles; men and horses were in excellent condition. The weather was bright, and particularly mild for the time of year. The first night was passed in the environs of Silanataï, half-way between the Hunho and the Shaho. On the second night the village near the junction of these two rivers was reached. About 75 miles had now been covered. On the night of the 9th the scouts seized a small convoy; but the Japanese had taken the precaution to place combustibles in some of the houses, which would produce when fired a dense volume of smoke, in order to give the alarm. And as night came on fires were observed blazing up one after the other in an easterly direction. The presence of the Russians was thus signalled. On the morning of the 10th the force fell in with some five hundred Chunchuses and put them to flight with a loss of some hundred killed. In advancing towards the south the columns of the right and centre found themselves before the walled village of Shoutoze, close to the junction of the Liaho and Taïtzou, a small stream running from the east to the west; the village was held by some two hundred Japanese, who offered a stout resistance, but on the attack being renewed after



dark by the Cossacks, under General Verkhoyondinski, it was captured. The brigade of Cossacks of the Caucasus was then sent east to cut the railway to the north of Haycheng, in order to prevent the despatch of troops coming from the south. On the 11th the force crossed the Taïtsou, and towards mid-day attacked Old Newchwang. Sixty Japanese shut themselves up in a house and refused to surrender, so they were left. Several convoys were seized and burnt at once. The Japanese or their Chinese agents set on fire all the villages along the route followed by the Russian columns, so that their track was marked by day by the dense columns of smoke and at night by the flames of the burning hamlets. The night of the 12th was passed in some villages 18 miles to the east of Yinkow. During this time the Cossacks of the Caucasus destroyed nearly six hundred yards of the railway to the north of Haycheng. The dragoons also partially blew up the Tachikeio bridge and cut the telegraph. On the 12th the cavalry moved against the Yinkow railway station, burnt the adjoining store-houses, and at four o'clock attacked the station, which was defended by a thousand Japanese, who had just arrived by train on the scene. Six Russian batteries came into action, while the Japanese had no guns, but were entrenched. The buildings near the station took fire; nevertheless the attack, continued up to nightfall, failed—because the mounted men had no bayonets, said the Report. General Mistchenko retired in good order, carrying off his wounded; but a considerable Japanese force had in the meantime been despatched from Haycheng to cut off the retreat of the raiders, but it failed in its object, and by the 15th the Russians were in safety again behind the advance posts of the army.

Here, then, was a raid organised and carried out with both skill and energy, but without any appreciable result. Under their present conditions no other European cavalry could have done better. We cannot impute its little success to a want of vigour, but solely to the fact that the cavalry was without the indispensable weapon, viz., the howitzer or light mortar, which alone can make a village untenable and rapidly destroy obstacles which may be met with. Artillery of small calibre, however rapid its fire may be, and powerful as it is against exposed troops, is incapable of reducing field works. The thirty-six guns placed in battery before the Yinkow station had no guns in front of them; there was nothing to interfere with their mode of action, and yet they were ineffective, just as General Samzonoff's artillery was in the attack on the village of Sénoutchen. The question admits of no dispute. Cavalry ought to be accompanied by a certain number of howitzers or light mortars, firing a shell of large capacity with a high explosive charge. The progress made in artillery permits of this. Mounted men should also be armed with bayonets. Napoleon ordered it in his Decree of the 12th February, 1812:—"The carbine will be fitted with a bayonet, sheath for which will be attached to the sword-belt, as is done with the dragoons." The cavalry then could carry out successful raids, seize important points on the railways. It would then once more have wings, and would run no risk of seeing itself brought to a halt by some paltry village. The question of a gun of large calibre for cavalry is not a new one. Even as early as under the First Empire the generals of cavalry asked for one.

What was the action of the cavalry in a pitched battle? Mukden on this point has given us several lessons. This battle developed from

the 25th February to the 11th March, 1905, on a front varying from 100 miles (27th February) to 75 miles (8th March). The water-courses were still frozen, and the country everywhere practicable for all arms. Let us recall briefly the principal features of this gigantic encounter.

The Russians were formed in three armies and one general reserve. On the right (the West) General Kaulbars was in command of the 2nd Army, consisting of the 1st Siberian Corps, the 8th and 10th European Corps, and a corps of European sharpshooters. In the centre, General Bilderling was in command of the 3rd Army, consisting of the 5th and 6th Siberian and 17th European Corps. On the left (the East) General Linievitch commanded the 1st Army, consisting of the 1st European Corps and the 2nd, 3rd, and 4th Siberian. On the extreme left again was the independent corps of General Rennenkampf. At Mukden, as the general reserve, was the 16th European Corps. The whole force amounted to a total of 380 battalions, 170 squadrons, 175 batteries (8-gun), and 23,000 engineers, or a total of 380,000 men. This army was entrenched. All the resources of field fortification had been called into requisition. There were great redoubts with defilading communications, wide and deep, networks of barbed wire, *trous-de-loups*, electric and automatic mines, roads of communication between the front and the rear, batteries provided with epaulments, siege guns in position in front of the Shaho-pu station, ammunition depôts in the trenches, a broad-gauge railway running parallel to the front and connecting the country to the south of Mukden with Fushun, the centre of the left; in addition there was a telephonic network between the works and headquarters, while electric search-lights and observation stations sixty feet high, were *echeloned* the whole length of the lines; nothing was neglected. The Russian army had 60,000 men more than the Japanese. From the 25th February to the 4th March the battle raged; on all sides counter-attacks were renewed day and night; but on the last-named date the Russian battle front now took the form of the two sides of a square. On the night of the 8th-9th the line of communication to the north of Mukden was so threatened that retreat became imperative. On the 9th the extreme right was in its turn outflanked, and on the 10th a part of the troops under Kaulbars and Bilderling, taken between two fires through the Japanese taking advantage of an opening left between the two armies, suffered disaster. The losses amounted to 26,500 killed, 90,000 wounded, and 40,000 prisoners, or a total of 156,000 men. The Japanese confess to a loss on their side of 46,500 men. The Russian defeat was thus complete. We may confidently assert that one of the principal causes of the disaster lay in the faulty employment of the cavalry.

General Kuropatkin was unable to see anything, said the report; he had to manœuvre in the dark. He was deceived by the secrecy and rapidity of the enemy's movements, as well as by erroneous deductions founded on the preceding operations. The mountainous regions of the east seemed to have attracted the principal Japanese forces, accustomed to act in broken and difficult country. From the battle of the Yalu up to that of the Shaho, the Russian General Staff declared that if the Japanese were free to choose, they would by preference utilise the hilly country. When the great turning movement against the Japanese left was made by Generals Kaulbars and Gripenberg at the end of January across the great plains of the Liao and Hunho,



although the victory of Haikantai rested with the Japanese, it was admitted that they seemed to have displayed, perhaps, a certain hesitation, or inaptitude for fighting on the plain. Thus General Kuropatkin was led to believe that the principal attack would be in the country to the east and south-east of Mukden, and not by the plains of the Liao and Hunho. Some other incidents at that time also tended to confirm him in his error, and we have thus once more a proof that nothing is more dangerous in war than a preconceived idea of the movements of your enemy. Here are the facts. Up till then Kuropatkin had only to deal with three armies—those of Kuroki, Nodzu, and Oku. The fall of Port Arthur left General Nogi's army free. In addition, a fifth army, under General Kawamoura, had left Japan towards the end of January. The secret of the composition of this army, its points of disembarkation, and its line of march had been well kept. Nevertheless, the Japanese, intentionally without doubt, had allowed the Tokio journals to announce that Kawamoura was intended to operate in the region to the east of Mukden. In addition, in order better to deceive the Russian General Staff, it was announced that the 11th Division, under the command of General Sakai, had left Port Arthur on the 22nd January to join Kawamoura's army in the east. Moreover, Kuropatkin thought that the turning movement of General Gripenberg against the Japanese left would bring him in touch with Nogi's army, if it was anywhere to the westward. The Russian advance guards were pushed 14 miles to the west of Liao-Yang, and the troops met all belonged to Oku's army. From that moment, Kuropatkin, convinced that Nogi's army was to the east, moved to that side the centre of gravity of his forces.

Let us now see what was the Japanese plan: To attack the front with Kuroki's army on the right, Nodzu in the centre, and Oku on the left; to threaten the Russian left on the east by an enveloping movement through Tita on Tieling, by means of Kawamoura's army, in order to draw the Russian reserves in this direction—which was just what happened; then, the effect produced, Nogi's army was suddenly to appear on the west, having been concealed up to that time behind Oku's, envelope the Russian right, and cut the railway to the north of Mukden. This plan was carried out in every detail.

How was it that the Russian cavalry failed so badly in obtaining any information? It was only on the 7th March, that is to say, at the moment when the battle was in effect lost, that Kuropatkin was able to realise the danger which menaced his right and his principal line of communication. At the commencement of the battle his cavalry was in three groups. In the plain, at Sinminting (28 miles west of Mukden), the 51st and 52nd Regiments of Dragoons. In the mountains in the east, in the direction of Tsiangchang and Saïmatzé, the Siberian Division and two Trans-Baikal regiments. Far away, in the rear towards the north, the Division of the Don and a regiment of Cossacks of the Ussuri. These last forces left on the 28th February in pursuit of some guerilla bands who were trying to cut the railway to the north of Tieling. The rest of the available cavalry (a part of the division of Trans-Baikal Cossacks, four regiments of dragoons from the Maritime Province, the regiment of Cossacks of the Amur, and an Orenberg regiment) secured the connection between the corps d'armée and furnished the escorts. A total of from 17,000 to 18,000 horsemen, so distributed that no part was sufficiently strong to deal with any grave eventuality.



The Japanese had fortified their front in the region of the Shaho, over an extent of 37 miles, by means of two lines of closed redoubts and a third line of deep trenches. Thus satisfied as to the position of their centre, they manœuvred by their wings. On the 24th February Kawamoura attacked the defiles of Chinghocheng, took possession of them, and drove back the Russian advanced posts. On the 26th he planned a grand enveloping movement with two combined detachments. The first, under General Tomoura, comprised four regiments of cavalry, a battalion of infantry, twelve field guns, and twenty-four machine guns; the second, under General Aliyama, was similarly made up. These troops had no train, and General Pavloff reported them as marching towards the north-east with the speed of "jinrickshaws." General Kuropatkin, more and more convinced that the Japanese wished to envelope his left, despatched to this side the 1st Siberian Corps, which was on the right near Mukden. This corps made a forced march of 50 miles, but had scarcely come in touch with the enemy than it was recalled to the right. It arrived at Mukden on the 3rd March, having uselessly covered 125 miles, and so fatigued that from the 6th to the 9th it could scarcely be utilised. On the 10th the order was given to retreat.

On the 26th February the Japanese army took the offensive all along the line. Its frontal attacks, renewed again and again up to the 8th March, failed. Equally on their extreme left the Russians opposed an insurmountable resistance, and they even on the 28th February at Kaotouling captured a battery. But the Japanese had formed to the west a column of 6,500 mounted men, accompanied by artillery and a thousand infantry. This troop, forming an advanced *échelon* of the left of General Nogi's army, up to that time kept in concealment behind the network of the flank detachments of General Oku, was set in motion on the 27th February, and on the 1st March it drove two regiments of Russian dragoons out of Sinminting. The heads of the columns of Nogi's army followed, forming a series of *échelons*, the left in advance, so as to be able to fall on the Russian right when turning eastward. On the 3rd March Nogi's army deployed, preceded by a screen formed of mixed detachments, marched on Mukden, from which it was only  $9\frac{1}{2}$  miles distant.

The Russian cavalry, incapable of piercing the screen, could send in no useful information, so much so that Kuropatkin believed that on this side it was only a demonstration of no importance. On the 6th March he sent again to St. Petersburg reassuring despatches, because along his whole front, from the south of Mukden to the east of Tita, over a space of 50 miles, the Japanese had been everywhere repulsed with considerable losses. But on the 6th, in the evening, danger became apparent. The army of General Kaulbars had to change front during the battle, thus giving a remarkable proof of its steadiness. From the 7th to the 8th March, the Japanese only gained some 3 miles; but on the evening of the 9th the battle was definitely lost. Why did not the Russian cavalry act *en masse* and by means of its fire, as Sheridan's did at Five Forks?

Everything could have been saved! It could have delayed the movement of Nogi and given Kaulbars time to form some *échelons*, fronting south, with the left refused. The Japanese attack, forced to extend instead of concentrating, would have exhausted itself, and a Russian victory become probable. But yet another point of view has to be considered. An army on the defensive is obliged to keep in

hand large reserves. It is, in fact, difficult to tell at the beginning of a battle to what point the principal efforts of the enemy will be directed. The great force of resistance of the fronts leads to placing the reserves towards the flanks. Yet it is necessary that they should be formed so that they can intervene in time. On account of the enormous extent of the fighting front, infantry, which only moves across country at the rate of  $3\frac{1}{2}$  miles an hour, could not fill the rôle of general reserve of the army, and still less of reserve for a group of armies. This rôle henceforth belongs to the cavalry. Two or three masses of from 6,000 to 8,000 mounted men, good marksmen, provided with machine guns, field guns, and howitzers, will allow a Commander-in-Chief to guard against an attack in time, or to bring off a decisive issue. These dispositions, applied to Mukden, would have changed the situation. The 15,000 cavalry could have been thus distributed: 5,000 or 6,000 placed in reserve in rear of Kaulbars' right wing, to the north of Soufantai, between the Liaho-ho and the Hung-ho, with a brigade as a flank guard at Sinminting; 8,000 close to Mukden; 4,000 towards the Upper Hunho, to the east of Fushun; in these conditions the movement of the Japanese on Sinminting would have been necessarily delayed. Even admitting that Sinminting could have been captured on the 1st March, the 8,000 cavalry at Mukden, joined to the 5,000 in reserve on the right, would have been able, with their machine guns and a part of their artillery, to have contained the front of Nogi's army, whilst their main body would have out-flanked and attacked its flank. It is probable that on the 3rd March Nogi had not arrived within 13 miles of Mukden, and that the village of Likouan-pu, the pivot of the change of front made by Kaulbars' army, and attacked on the 4th March, should not have been given up on the 8th on account of the capture of Pa-Kiatsu, 9 miles further north. The change of front would not have had this character of extreme urgency which produced a regrettable mixing up of units, and it is quite probable that the Russians would have succeeded in preventing the junction of the armies of Nogi and Oku. On the 8th March, as a matter of fact, the Japanese had not yet succeeded in capturing the station of Machiopa, on the Hunho, 6 miles to the south of Mukden. The 4,000 cavalry on the left could at the same time have been recalled to Mukden, where they could have been placed in the general reserve from the 4th March. Admitting that events would have been as they were, Mukden would have only been a battle lost without disaster. We know that the retreat ordered on the 8th March was carried out in excellent order by Linievitch's army to the east, as also did the left of Bilderling's army; but a gap being left on the 9th between Bilderling's right and Kaulbars' left, a Japanese force of cavalry, with artillery, was launched towards the north through this opening, and opened fire on the rear of Kaulbar's troops, who were fighting facing to the west. This was the cause of the disaster. Nearly 40,000 prisoners were captured; 3,000 or 4,000 cavalry in reserve at Mukden, sent rapidly to close the opening or sweep away the Japanese detachment, which was numerically insignificant, would have saved the situation.

How did the Japanese, in spite of the numerical inferiority of their cavalry, utilise it? From the beginning of the campaign they have employed for reconnoitring officers accompanied by a small number of mounted men. We have seen that the duty of covering the army was carried out by means of small mixed detachments,



generally disposed checkerwise, and moving on a very wide front. Their cavalry was always supported at a short distance by infantry (behind which it took shelter at need). Cases of mounted fighting were very rare, while fighting dismounted went on continually. The Japanese did not commit the fault of asking from their cavalry information that no cavalry could now give, because the Regulations everywhere in force continued to impose on it the duty of enlightening the General-in-Chief as to the composition of the enemy's forces. Information of this kind was obtained by a system of espionage organised for several years past in Corea and Manchuria. The Japanese never forgot that this service could not be improvised at the moment war broke out. It was only the leisure hours of peace which permitted of giving this service the necessary development, so that information could arrive rapidly and surely. An anecdote will give the measure of the organisation. At the end of February, 1905, Kuropatkin's headquarters were at Sahetun, 6 miles to the south of Mukden, near the branching off of the large road constructed to connect Mukden with the army of the east of Fushun. The Commander-in-Chief had resolved to take the offensive on the 25th February. The preparation of the orders had been most carefully kept secret. On the 25th February it was discovered that these orders were known to the espionage service organised at Mukden by a Japanese officer of rank, who had resided there for a long time. Counter-orders were immediately given.

In battle the Japanese employed their cavalry in a logical manner; that is to say, as troops whose fire is the essential mode of action, and which can be rapidly brought to the required spot.

On the 15th June, at the battle of Télitzé (Vafangou), the Japanese right wing, vigorously attacked and outflanked by considerable forces, was compromised. Although twice reinforced, it was on the point of succumbing when a strong detachment of cavalry succeeded in turning the Russian left flank and attacking them in rear. The Japanese profited by the respite; thus their cavalry decided the fate of the day. At Mukden they formed a corps of cavalry under the command of General Akiyama; it comprised 40 squadrons, 12 machine guns, a battery of horse artillery, and 1,000 infantry. It debouched from the Hunho on the 26th February; on the 1st March it was at Sinminting, 37 miles to the north, forming the advanced *échelon* of the left of Nogi's army; then it was continually fighting to the north of Mukden, in constantly outflanking the Russian right, which was resisting the enveloping movement. A brigade of the 16th Corps, drawn from the general reserve at Mukden and sent as a flank guard, was almost destroyed; it was beaten and surrounded, having been attacked in front by Nogi's infantry and in rear by the cavalry. It only rejoined the army on the 5th March. On the 9th March the Japanese cavalry succeeded in cutting the railway between Mukden and Tieling; it harassed without ceasing the retreating Russians, and seized great quantities of *matériel*. We have already seen that the rout of the Russian right was brought about by the action of a force of cavalry, which, with guns, was thrown between the armies of Kaulbars and Bilderling.

The Japanese cavalry, in spite of its numerical inferiority, thanks to its being employed rationally, did just what one would have expected of it.

(To be continued.)



## NAVAL NOTES.

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HOME.—The following are the principal appointments which have been made: Captains—P. Vaughan Lewes, D.S.O., to "Hyacinth"; R. S. Lowry to "Russell"; F. C. Noel to "Hood"; R. H. Anstruther to "Brilliant"; H. A. Tyler to "Sirius"; A. Moggridge to "Hogue"; C. H. Moore to "St. George"; A. Ricardo to "Empress of India"; F. S. Miller to "Sutlej"; F. E. Brock to "Triumph"; W. L. Grant to "Hawke"; C. J. Baker to "Edgar"; F. C. Pelham to "Albion"; A. Hayes-Sadleir to "Resolution."

The first-class battle-ship "Queen" arrived at Portsmouth on the 28th ult. from the Mediterranean; she paid off at that port on the 7th inst., recommissioned on the 8th, and is to return to the Mediterranean for another term of service. A disastrous explosion occurred on the 16th ult. on board the first-class battle-ship "Prince of Wales" in the Mediterranean while running a series of full-speed trials; the connecting rod-bolts of the port high-pressure engines and the top of the port cylinder cover were fractured; three stokers were killed and four others injured.

The first-class armoured cruiser "Hogue" arrived at Plymouth from China, convoying the destroyers "Flying Fish" and "Star" from Gibraltar to England. The first-class armoured cruiser "Sutlej," also from China, arrived on the 28th ult. at Spithead.

The second-class cruiser "Hyacinth," which arrived at Plymouth on the 30th March, after having been relieved as flag-ship in the East Indies by her sister-ship, the "Hermes," paid off on the 20th ult. at Devonport. The second-class cruiser "Bonaventure" arrived at Plymouth on the 7th ult. with the destroyers "Exe," "Dee," "Itchen," "Ettrick," "Erne," and "Arun," which she had convoyed home from China; she will pay off at Devonport and be refitted at Haulbowline.

The third-class cruiser "Katoomba" arrived on the 3rd ult. at Portsmouth from Australia, and will pay off at that port; the third-class cruiser "Wallaroo," also from Australia, paid off on the 10th ult. at Devonport; the orders for her to be sold out of the Service have been cancelled.

The Admiralty have ordered the 21 torpedo-boat destroyers which have arrived from abroad or are on passage to England to be temporarily allocated to the home ports as follows:—To Devonport: "Quail," "Arun," "Erne," "Ettrick," and "Itchen"; to Chatham: "Panther," "Orwell," "Sprightly," "Seal," "Thrasher," "Myrmidon," and "Bat"; to Portsmouth: "Earnest," "Lively," "Kangaroo," "Crane," "Star," "Flying Fish," "Locust," "Dee," and "Exe." The "Quail" will be reduced to nucleus crew for service as tender to the "Vivid," and the "Arun," "Erne," "Ettrick," and "Itchen" will remain in full commission as tenders to the "Vivid." The "Panther," "Orwell," "Sprightly," "Seal," and "Thrasher" are to pay off and recommission with nucleus crews as tenders to the "Pembroke," and the "Myrmidon" and "Bat" are to remain in nucleus crew commission for service as tenders to the same ship. The "Locust" is to remain in full commission

as tender to the "Victory," the "Exe," "Dee," "Earnest," and "Lively" are to be reduced to nucleus crews for similar service; the "Flying Fish" will pay off and recommission with a nucleus crew, and the "Star" will remain in nucleus crew commission, all as tenders to the "Victory," for which service the "Kangaroo" and "Crane" have already been recommissioned with new nucleus crews.

The second-class cruiser "Scylla," flying the broad pennant of Commodore Sir A. W. Paget, A.D.C., with the "Latona" and "Sappho," detached for duties in connection with Newfoundland fisheries, arrived at Spithead on the 5th ult. and disembarked 120 Newfoundland Royal Naval Reserve men, who were distributed in equal numbers between the three ships for the cruise. The men, after spending a couple of days in London, where they were inspected by the Admiralty, returned to Newfoundland by steamer from Liverpool. The squadron, under the command of Commodore Paget, since the conclusion of the fishery season last October, has been on an extended cruise to show the flag in the West Indies and along the coast of South America, where the principal ports were visited. The Newfoundland Naval Reserve men have thus been enabled to put in some five months' service on board the ships of the squadron, which they seem to have much appreciated.

*Sinking of Torpedo-boat No. 84.*—The following message was received at the Admiralty on the 18th ult. from the Commander-in-Chief, Mediterranean:—

"Regret to inform during operations off Malta, on night of 17th April, torpedo-boat 84 was run into by the "Ardent" and sunk. Crew saved; but Gunner (T.) Thomas Courtis, of the "London," who was second in command of the torpedo-boat, has since died from injuries received in collision.

" "Ardent" now in dock, bow damaged."—*Times and Naval and Military Record.*

AUSTRIA-HUNGARY.—The following are the principal appointments which have been made: Rear-Admirals—Leopold Ritter von Jedina, to Command of Evolutionary Squadron; Anton Haus, to Command of Reserve Squadron.—*Militär-Zeitung.*

The Evolutionary Squadron, under the command of Rear-Admiral von Jedina, consists of the battle-ships "Habsburg," "Arpad," and "Babenberg," the first-class armoured cruiser "Sankt Georg," the protected cruiser "Sziyetvar," three destroyers, and twelve torpedo-boats; Rear-Admiral von Jedina's flag is flying on board the "Habsburg."

A reserve division was constituted in January last, consisting of the "Monarch" (as flag-ship), the "Wien," and "Budapest," under the command of Rear-Admiral Anton Haus; the squadron is stationed at Fasana, on the Istrian coast.

*The Matériel of the Fleet.* — Austria-Hungary possesses at the present time three modern battle-ship divisions, of which the two first were constructed between 1895 and 1900. The first and oldest division consists of the "Monarch" and her sister-ships, the "Wien" and "Budapest"; these ships were followed by the "Habsburg," "Babenberg," and "Arpad," vessels larger, better protected, and more powerful

in every way than the "Monarch" class. The third division, of which one ship only is as yet ready for sea, consists of the "Erzherzog Karl" (launched in 1903), the "Erzherzog Friedrich" (launched in 1904), and the "Erzherzog Ferdinand Max" (launched last year). These three ships, again, are larger, and improvements again on the "Habsburg" class.

The Navy only possesses three modern armoured cruisers, the "Kaiserin und Königin Maria Theresia," the "Kaiser Karl VI.," and the "Sankt Georg," with two large and three small protected cruisers. There was a considerable increase in the Estimates last year, and a part of the sum voted for new construction has been devoted to the replacing of the torpedo flotillas, most of the vessels composing which had become quite obsolete. In order to do this as quickly as possible and to prevent the necessity of trying different types, and at the same time to afford work for the home yards, it was determined to order a destroyer and sea-going torpedo-boat from Messrs. Yarrow, which would serve as models. This was done, and the destroyer "Huszar" and the torpedo-boat "Kaimon" were constructed in England, and arrived from the builders towards the end of the year, and as they completely fulfilled the contract conditions, six destroyers and ten torpedo-boats have been laid down, and are being constructed by the Danubian firm at Fiume, while five destroyers are being constructed by the "Stabilimento Technico" at Trieste, which have been named the "Ulan," "Streiter," "Wildfang," "Scharpchütze," and "Askole." The destroyers are to have a displacement of 390 tons, with engines developing 6,000-I.H.P., giving a speed of 28·5 knots; the torpedo-boats will have a displacement of 200 tons, with engines developing 3,000-I.H.P., and giving a speed of 25·7 knots.

The old battle-ship "Kronprinz Erzherzog Rudolf" and the "Kronprinzessin Erzherzogin Stephanie," both launched in 1887, with the "Tegethoff," launched in 1875, have been struck off the lists, as well as the small cruiser "Tiger." For some years the three battle-ships had been allocated to local defence purposes.

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*Steam Trials.*—The new first-class battle-ship "Erzherzog Karl" completed her trials last year with brilliant success, the contract speed of 19·2 knots being exceeded by more than a knot. At the 12 hours' coal-consumption trial, with the engines developing 6,434-I.H.P., and making 100·5 revolutions, a speed of 15·8 knots was maintained, with a coal consumption of 0·87 kg. (1·91 lbs.) per I.H.P. per hour, and 109·6 kg. (241·1 lbs.) per square metre of grate surface, with 8 boilers in use; at a further trial of 12 hours, with the engines developing 9,311-I.H.P., and making 114·1 revolutions, a speed of 17·7 knots was obtained, with a coal consumption of 0·511 kg. (1·124 lbs.) per I.H.P., and 99 kg. (217 lbs.) per square metre of grate surface, with 12 boilers alight; at a 4 hours' full-speed trial under natural draught, with the engines developing 13,180-I.H.P., and making 126·5 revolutions, a speed of 19·1 knots was obtained, with a coal consumption of 0·817 kg. (1·79 lbs.) per I.H.P. per hour, and 141·2 kg. (310·6 lbs.) per square metre of grate surface, 12 boilers being alight; while during a two hours' trial under forced draught, with the engines developing 18,386-I.H.P., and making 140 revolutions, the mean speed on the measured mile was 20·3 knots. The displacement of the ship during the trials was 10,638 tons, with everything on board except provisions, of which there was only half the sea supply. The air pressure during the forced-draught run was from 45-50 mm.



(1·8 to 2 inches), the coal consumption being 0·92 kg. (2·02 lbs.) per I.H.P. per hour, or a consumption of 216 kg. (475 lbs.) per square metre of grate surface, with the whole 12 boilers in use.

A sister-ship, the "Erzherzog Friedrich" also successfully completed her trials in January. At the 4 hours' full-speed trial under natural draught, with the engines developing 14,100-I.H.P., and making 126·6 revolutions, a mean speed of 19·06 knots was maintained; at the 2 hours' full-speed trial, under forced draught, with the engines developing 18,340-I.H.P., and making 137·3 revolutions, a mean speed on the measured mile of 20·56 knots was attained. These results were considered so satisfactory that no further trials were deemed necessary.

The new first-class armoured cruiser "Sankt Georg" has also successfully concluded her trials. At the 12 hours' coal-consumption trial, with the engines developing 6,322-I.H.P. and making 103·03 revolutions, the mean speed was 17·54 knots, with a consumption of 1·06 kg. (2·33 lbs.) per I.H.P. per hour, and 143 kg. (314 lbs.) per square metre of grate surface, eight boilers being in use; at the second 12 hours' trial, with the engines developing 9,206-I.H.P., and making 117 revolutions, the mean speed was 19·6 knots, with a coal consumption of 0·99 kg. (2·17 lbs.) per I.H.P. per hour, and 130·7 kg. (287·5 lbs.) per square metre of grate surface; at the 4 hours' full-speed trial under natural draught, the engines developed 13,095-I.H.P., making 130·1 revolutions, the mean speed of 21·3 knots was maintained; and at the 2 hours' full-speed trial under forced draught, with the engines developing 15,271-I.H.P., and making 134·9 revolutions, a speed of 22·01 knots was maintained on the measured mile. The displacement of the "Sankt Georg" at the time of her trials was 7,420 tons, complete for sea, except provisions, of which half the full stowage only was on board.—*Mittheilungen aus dem Gebiete des Seewesens und Marine Rundschau.*

FRANCE.—The following are the principal promotions and appointments which have been made: Rear-Admiral—H. A. Jauréguiberry to be Vice-Admiral. Capitaines de Vaisseau—L. V. Marin-Darbel to be Rear-Admiral; J. M. Fargues to "Hôche"; P. A. M. Le Bris to "Pothuau." Capitaines de Frégate—B. M. de Saint-Pern, F. Z. Jan-Kerguistel to be Capitaines de Vaisseau; E. L. Martinie to Command of Fixed Defences, Lorient; G. Lejay to "Durandal" and Command of 2nd Torpedo-boat Flotilla in the Channel; P. A. M. Ronarch to "Mousqueton" and Command of Destroyer Flotilla of the Mediterranean Squadron.

Rear-Admiral De Fauque De Jonquières has been appointed Naval Attaché at Berlin; this is the first time an officer of flag rank has been appointed to such a post.

The first-class armoured cruiser "Marseillaise," flying the flag of Rear-Admiral Campion, commanding the Cruiser Division of the Mediterranean Squadron, left Toulon on the 2nd ult. for Annapolis (United States); at the Azores she was joined by two sister-ships, the "Condé" and "Amiral Aube," and the squadron represented the French Government at the interment of the remains of Paul Jones in American soil, after their transference from France.

*The Loss of the "Sully."*—A court-martial assembled at Toulon on the 30th March for the trial of Capitaine de Vaisseau C. C. Guiberteau, late in command of the first-class armoured cruiser "Sully," which was wrecked on the 7th February, 1905, by striking on a rock in the Henrietta

Channel, Aloing Bay, Cochin China, while at torpedo practice. The Court was composed of Vice-Admiral Caillard (President), Rear-Admirals Jauréguiberry, Germinet, Fort, and Krantz, and Capitaines de Vaisseau Sauvan and R. Foy. The court-martial resulted in the acquittal of Capitaine de Vaisseau Guiberteau.

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*New Ships.*—The new first-class battle-ship “République,” having received her armament, and being in all other respects ready, has been placed in the roadstead at Brest, and having received her reduced complement, is now to carry out her steam and other trials; she is the first of the battle-ships of the 1900 Programme to be completed.

Orders have been received at Brest and Lorient for the laying down of the two new 18,000-ton battle-ships, “A16” and “A15” respectively; the remaining four are to be built in private yards. All six ships are to be completed within four years. Their characteristics, which have now been finally approved by the Minister of Marine, are as follows:—Length, 475 feet 7 inches; beam, 84 feet; draught, 27 feet 6 inches, with a displacement of 18,000 tons. The armament will consist of four 12-inch guns in two turrets, one forward and one aft; twelve 9·4-inch guns in pairs in turrets, three on each broadside; sixteen 12- and eight 3-pounders, with two submerged torpedo-tubes. The engines are to develop 22,500-I.H.P., giving a speed of 19 knots. Details of the armour have not yet been published. The cost of each ship will be 47,851,558 francs (£1,914,062), of which it is proposed to spend 2,717,340 francs (£108,693) during the present year. The ships are to be called the “Voltaire,” “Diderot,” “Condorcet,” “Vergniaud,” “Mirabeau,” and “Danton.”

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*Gunnery Training : New Regulations.*—On account of the proved necessity for long-range fire, the Department of Marine has been occupied lately in improving the optical apparatus for sighting guns at long ranges; the delicate adjustment and fitting of telescopic sights could only be undertaken when the different ships happened to be in the dockyards. Hence there has been some delay, but most of the large vessels are now provided with sights for firing up to ranges of 9,000 yards, though the men are not yet thoroughly trained in their use.

Up to recently ships have been supplied for their quarterly firing with a special practice ammunition with a reduced charge, and it has only been once a year that full charges have been fired. A recent circular, however, has abolished in principle practice ammunition, and from 1907, when all this class of ammunition will have been expended, only full battle charges will be used at target practice.

This reform will undoubtedly be of great benefit to the guns' crews in accustoming them to firing the battle charges, and by keeping up a regular expenditure it assures that the powder will not have deteriorated from having been kept too long in stock. There is also the further advantage that on mobilising, ships will not be delayed by having to exchange practice for battle ammunition as formerly.

Training in gunnery has up to now been carried out on board the “Couronne” gunnery-ship, but this old vessel no longer fulfils modern requirements; and it has been thought advisable to institute an additional gunnery course at sea. The armoured cruiser “Pothuau” has been selected as suitable for the purpose, and to her officers and men will be passed on from the “Couronne.” She is not quite up to date as a fighting ship, and so can be best spared from the fleet. Her guns, how-

ever, are on modern mountings, such as are usually in use in the French Navy. A decree instituting the *Ecole d'application de tir à la mer* on board the "Pothuau" appeared in the *Journal Officiel*, of 22nd February.

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*Précis of M. Charles Bos's Report on the Naval Estimates for 1906 (continued).—The Question of Speed.*—On the vexed question of speed, M. Bos makes the following comments:—"Speed is one of the essential elements in a modern battle-ship. That nobody denies, but there exists a very considerable difference of opinion as to the amount of importance to be attached to it, and it is necessary to be careful not to exaggerate the arguments on one side or the other.

"Speed is costly. In order to realise it in a ship which is to keep the sea in all weathers, steam fast even in a heavy sea, and carry a powerful armament, a large displacement is first of all necessary; powerful engines and numerous boilers follow, in addition to a large coal supply. And yet in a really heavy sea the ship must reduce her speed.

"To obtain an extra knot of speed, after a certain point has been reached, means an additional four or five thousand horse-power in order to gain it.

"But in spite of this, speed is none the less necessary. It allows the weaker of two adversaries to avoid battle and await reinforcements which may be promised him. On the field of battle it enables its possessor to remain master of the position, to prepare and execute enveloping movements and to engage as suits himself, and to overhaul an enemy which may be disabled or seeking safety in flight. With superior speed, in fact, one is ready for anything.

"But in order that this tactical speed may be of use, there must be a superiority of at least two to three knots.

"It is remarkable that in the Russo-Japanese War the highest speed has not played the rôle which people thought it would. In spite of the 20 knots that they reached on their trials, the three armoured cruisers of the Vladivostok Squadron, the 'Gromoboi,' 'Rossia,' and 'Rurik,' were unable to reach Port Arthur and force the blockade. The 'Bayan,' with the same speed, also effected nothing. Togo's armoured cruisers do not seem to have made much use of theirs; as a matter of fact, they fought and manœuvred at 20-knot speed, and a division may be obliged to realise that speed if it is to take up a desired battle position.

"On the 9th February the 'Varyag,' in spite of her speed of 23 knots, was disabled and obliged to return to Chemulpo before she could pass across the Japanese line. The 'Askold,' at the battle of the 10th August, succeeded in escaping, but this was not due to her 23-knot speed, which she was unable to realise owing to the damage to her funnels, but rather to the fact that the Japanese ships had run short of ammunition for their heavy guns. To this also the 'Diana' owed her escape.

"With regard to the protected cruisers, which were present at the battle of Tsushima, the 'Almaz,' which reached Vladivostok, and the four others, under Admiral Enquist, which reached Manila, did doubtless owe their escape to their speed, but then they took hardly any part in the fighting, and escaped before Togo had executed his enveloping movement.

"At Tsushima neither the battle-ships nor armoured cruisers of Togo exceeded 16 knots, although the Japanese battle-ships had on their trials steamed from 18.5 to 19 knots, and the armoured cruisers had realised from 21.5 to 22.5 knots. With regard to Rodjestvensky, who was obliged to regulate the speed of his new battle-ships by his old ones, and whose



ships were also rendered slower by the state of their hulls, engines, and boilers, the highest speed that he could allow for was only from 12 to 13 knots. There was thus a difference of speed of at least three knots between the two fleets, and this tactical difference enabled Togo to carry out his tactical plans in a sea he knew well and close to his bases of operation.

"That which is then of first importance is homogeneity of speed, as the complement of homogeneity in armament, armour, etc., for all the battle-ships of a squadron, so that they can all, when necessary, proceed at the same rate of increased speed.

"With regard to *maximum* speed, it is not possible to aim at going beyond a certain limit except by sacrificing something in the armament or of reaching with a powerful armament excessive displacements and an unheard-of monetary cost. And with us this last solution could only be partially adopted, as we should be compelled to reconstruct all our docks at home and enlarge their entrances.

"Foreign Navies, already profiting by the lessons of the Russo-Japanese War, have commenced the construction of new battle-ships, which are to have a speed of from 18 to 20 knots. For ourselves it seems that if we cannot exceed a displacement of 18,000 tons, which is large and represents a cost of from 46 to 48 millions of francs (£1,840,000 to £1,920,000), it will be possible to give a speed of 20·5 knots, or a sea speed when necessary of 19 knots."

*The Fighting Ship.*—M. Bos then proceeds to give once more the particulars which in his opinion will go to make up the fighting ship of the future, whether she is called a battle-ship or armoured cruiser, and he adds some calculations as to the distribution of weight in the new ship, with a given displacement of about 18,000 tons, which seems to him to meet the demands now made:—

	Per cent. of displacement.	Tons.
Hull complete ... ..	34	6,052
Armour ... ..	31	5,518
Engines, boilers, pipes, etc. ... ..	11	1,950
Guns... ..	10	1,780
Torpedo-Equipment ... ..	Nil.	Nil.
Coal, etc. ... ..	8·20	1,480
Crews, provisions, drinking water, etc. ... ..	1·80	310
Masts, anchors, cables, electrical fittings, etc. ... ..	2·00	360
To spare ... ..	2·00	360
Total... ..	100	17,810

*Armament.*—Sixteen 27·4-cm. (10·8-inch).

Guns in pairs in turrets, one forward, one aft, and three on each broadside.

Twelve 14-pounders in a battery protected by 6-inch armour.

Twelve 3-pounders, similarly protected.

*Protection.*—Side armour 8·6 inches, extending to after turret, with lower streak 7·8 inches, tapering to 5 inches; turrets for heavy guns, 11·8 inches, and battery 6 inches.

*Engines.*—Two only and twin screws, instead of three, developing 25,000-I.H.P., with a weight of 78 kilos. (171 lbs.) per horse-power; that is, 1,950 tons.

*Speed.*—20·5 knots.

"We have selected," says M. Bos, "the 10·8-inch gun because it is lighter than the 12-inch, but will at the same time penetrate the thickest armour which ships are likely to carry in the future. If the ship is fighting an end-on action, whether ahead or astern, she will be able to bring six guns to bear, viz., two from either fore or aft turret, as the case may be, and four from the two foremost or two aftermost of the turrets on the broadside; if she is fighting a broadside action, she can bring ten guns to bear on her opponent from the fore and after turrets and from three of the turrets on the broadside. As only one type of heavy gun is carried, if a broadside action is being fought, there will be no difficulty in keeping up a continuous supply of ammunition and maintaining fire for a longer period than would be the case if the heavy guns were of different calibres."

M. Bos repeats his view, expressed in his Report on the Budget last year, that the tendency is all towards the fusion of the battle-ship and armoured cruiser. The new armoured cruisers have almost as great a displacement as the battle-ships of the 1900 Programme, and the day is not far distant when fusion will result through the battle-ship giving up some of the armour protection in favour of speed, while the cruiser will yield something in speed to better protection and a more powerful armament. Especially is this the case in the newest armoured cruisers designed in England and Japan, which are really second-class battle-ships. According to information supplied to the Ministry of Marine, the type of new armoured cruiser adopted by the Japanese, who have the advantage of being guided by their practical experience gained during the war, will have a displacement of 14,000 tons, a speed of 21 knots, a coal stowage of 2,000 tons, and an armament of four 12-inch guns, eight 10-inch guns, with six 4·7-inch Q.F. guns, which have been substituted for the 6-pounder Q.F., considered now too weak. These ships will then be really fast battle-ships.

In the matter of armoured cruisers, or "cruisers with armour," as they should be called, M. Bos thinks it time that France should call a halt, as when the new programme is completed in 1909 she will have enough vessels of that class; but he considers that none of these vessels are armed as they ought to be, as none of them could hope successfully to engage the new English armoured cruisers of the "Duke of Edinburgh" type, with their 9·2-inch guns, and for a similar reason they could not be put into the fighting line against foreign battle-ships.

"Logically," he continues, "if it is considered that the 23-knot 'cruiser with armour' is one day to replace the battle-ship, it will be imperative to give her a heavier armament than the latter, as she is less well protected, and she must be able to fire from a greater range. But the contrary is the case with us, and our vessels of this type can only risk an action with vessels of a similar class or protected cruisers. As out of the eighteen we shall possess in 1909, seven or eight will have cost almost as much as a battle-ship, one can only regret such mistakes. Very fortunately there is still time to prevent our repeating them.

It comes to this, that our present armoured cruisers, or rather "cruisers with armour," are not ships of battle. They are all that one can wish except that: commerce destroyers and scouting ships, whose employment is very costly on account of the amount of coal they burn. Before battle-ships they have to run; and what is the good of a ship which cannot fight? The truth is, that while having sufficient speed, the

"armoured cruiser" must also be efficiently protected and powerfully armed. That is the only type of ship possible. If instead of the five "cruisers with armour" of the 1900 Programme, and the three laid down posterior to that, we had built an homogenous squadron of "armoured cruisers," with a 20-knot speed, and carrying sixteen 10·6 or even 9·4-inch guns, we should be in a much better position than we are in to-day.

There are still some people, however, who, faithful to old traditions, tell us that the "cruisers with armour" (the cavalry of the force) are necessary for scouting purposes, to complete the work of destruction, and to run down fugitives. However this may be, this sort of naval cavalry is very costly.

In view of their costliness and weak armament, our thoughts naturally turn to the 25-knot scouts of 3,500 tons, or to auxiliary cruisers, which can do scouting work equally well and at a less price. We may even ask whether the "scouts" will not soon make way for 35-knot turbine destroyers of 1,200 or 1,500 tons. The English and Germans are already beginning to adopt this theory. For pursuing disabled fugitives the heavily armed "armoured cruiser," with destroyers of 400 or 500 tons, would be of a good deal more value than the "cruiser with armour."

We will next consider the fighting ships proposed in conformity with the Superior Council of the Navy. — *Rapport du Budget Général de l'Exercice, 1906 (Ministère de la Marine).*

(To be continued.)

UNITED STATES.—*Building Programme of the Navy General Board.*—Of far-reaching importance, because it really constitutes the only building programme the Navy has, is the report of the General Board of the Navy made to Secretary Morton on 28th October of last year, for his guidance in making up his recommendations to Congress for new ships. The report, which is signed by Admiral Dewey as President of the Board, gives the reasons for the request for three battle-ships instead of two, the omission of armoured cruisers, and in general sets forth the ideas of the Board about naval increase. Elsewhere we give the report of the Board on Construction upon the recommendations of the General Board, and while the two in effect are much the same, the line of reasoning of the two Boards in parts presents interesting differences. The report, which is signed "George Dewey, Admiral of the Navy, President of the General Board," begins :—

"The General Board respectfully submits the following recommendations on numbers and types of ships to be authorised by Congress at the coming Session. In respect to numbers, this report is based upon the general programme of construction adopted by the General Board on 17th October, 1903, and reiterated, after prolonged discussion, in its final report of 26th January, 1904, which has been essentially confirmed by the studies of the Naval War College during the past year—taken in comparison with the ships actually authorised by the last Appropriation Act [27th April, 1904], and modified in one particular (protected cruisers) by later experience and consequent change of professional opinion. In respect to the characteristics of the several classes, the report is based upon the General Board's final recommendations of January last—all of which were pronounced feasible by the Board on Construction—modified as to the battle-ship type by the trend of professional opinion at home and abroad, which was foreshadowed in the General Board's discussions last year, and has been reinforced by the experience of later target practice and of the present war in the East."



After stating its recommendations, the Board, in its report, says :—

“Three battle-ships are recommended because the general programme of construction proposed in compliance with Secretary Moody’s order to ‘assume such strength for the Navy as seems to the Board essential to the interests of the country,’ contemplated two battle-ships last year and two this year, and Congress last year authorised only one. Similarly, no armoured cruisers are recommended this year, because the programme called for one each year and Congress authorised two last year. Protected cruisers of the type recommended last year are wholly omitted this year, because there is good reason to expect better general efficiency than could have been expected from the new type of scout cruisers now being designed, and the General Board is of opinion that these vessels can do practically all the work expected of the protected cruiser type in time of peace; and for procuring and transmitting information in time of war, the more numerous fleet of scout cruisers, acting in conjunction with armoured cruisers, will, on the whole, be of better service than the number of larger protected cruisers that could be built for the same total cost. Five scout cruisers are recommended to keep pace with the programme of construction, which called for four each year, Congress having authorised only three last year. More would be recommended to make up for the omission of the protected cruisers but for the fact that the new scout cruiser type is as yet untried in active service. Similarly, six destroyers are recommended to make up for the deficiency of last year’s Appropriation Act, which authorised none. Torpedo-boats are added to the programme because the General Board is impressed with their value as a powerful element in the defence of the extended sea-coast of this country, along which there are many places where the deeper draught destroyers cannot navigate. The service performed by the Japanese torpedo-vessels, both destroyers and torpedo-boats, is sufficient argument for continuing the building of both types. The number of squadron colliers recommended is the same as last year. Colliers of the type required for the service of a fleet are unobtainable in the merchant marine, and are even more necessary to the Fleet before the completion of the Panama Canal than they will be afterwards.

“In addition to the foregoing vessels”—the three battle-ships, five scout cruisers, six torpedo-boats, six destroyers, and two squadron colliers—“the General Board recommends that the following special types be authorised this year :—

“One gun-boat of the “Helena” class for service in the inland waters of the Asiatic station.

“Two launches of not more than 16 inches draught for service in the upper Chinese rivers, of strong and durable construction, having a speed of 9 or 10 knots, armed with 1-pounder and one machine gun, and capable of carrying an armed force of sixty men with their equipments and rations for a week.

“Two small gun-boats for service in the inland waters of the Philippines, not over 70 feet in length and 3 feet draught, mounting 1-pounder and two machine guns, and having habitable quarters for an adequate crew.

“The cost of these special types would make an inconsiderable addition to the sum of the appropriation above proposed. The General Board further recommends that when the gun-boats of the present Philippine fleet become unserviceable, they be replaced by suitable vessels built on the Asiatic station.

"With regard to submarines, the General Board understands that the sum of \$850,000, appropriated by the Act of 27th April, 1904, is still available. If so, no further appropriation is recommended this year. If not, the General Board recommends that the same amount be re-appropriated. And in any case the General Board recommends that the building of submarines be expedited."

Regarding the estimates for three new battle-ships, the General Board says:—"In order to secure the homogeneity of squadrons, and since the battle-ships now authorised will be intended to combine in squadron with the "Connecticut" class, the General Board recommends that their displacement, speed, steaming radius, and manœuvring qualities be the same as the "Connecticut." Having fixed upon the "Connecticut" as the standard as to displacement and dimensions, there should be no departure from that vessel in the concomitant tactical features of speed and steaming radius without grave reasons, which do not appear to exist. Certainly no less speed than her 18 knots can be considered; and an increase, such as the 19 knots of the five smaller "Georgias," can be obtained only by a material sacrifice in some other direction which is not desirable. It is true that the five smaller "Georgias," if associated in squadron with three 18-knot "Connecticuts," would, as pointed out by the Tactical Committee of the Naval War College, lose the advantage of that tactical quality for which a sacrifice has been made in other features; but the General Board considers that to be a less evil than to make any sacrifice in guns or armour of new vessels. Moreover, the "Connecticut's" speed will probably differ less than one-half knot from the "Georgia's." If, by reason of improvements in engines or boilers or hull design, the same speed, 18 or 18½ knots, can be obtained with less weight of machinery, the General Board is of the opinion that it would be still better to ensure only that speed, and utilise the saved weight in additional armour and armament.

"The only feature in which a departure should be made from the "Connecticut" are the armour and armament. It is not essential that the gun powers of different ships of a squadron should be identical, provided they do not differ so as to affect the relative strength of end-on and broad-side fire. And a superiority in end-on fire, for instance, is not to be deprecated unless accompanied by a corresponding diminution of broad-side fire. The greater accuracy at long ranges of heavy guns as compared with lighter ones, their relatively as well as positively increased rapidity of fire, their greater collective effectiveness against armoured ships, and the evidence furnished by the war in the East that naval battles will be most often fought at long ranges—all point to increasing the number of heavy guns at the expense of the intermediate battery.

"Examination of the damage sustained by the Russian ships reveals a reported great preponderance of hits from heavy guns. It is true that any error in the estimation of sizes must be in the direction of the larger calibre. Steel plates do not close behind a shot as did wooden sides, but all holes are larger than the shot that makes them—especially in the instances under consideration, because the exceedingly sensitive Japanese fuses make their shell burst while going through the side. Nevertheless, considering that the long fighting ranges were near if not beyond the limit of the smaller guns' power, and that the accuracy of the bigger gun is naturally the greater, there seems no reason to doubt the general correctness of the reports.

"The General Board is of the opinion that we should not defer making this change in the armament of battle-ships. Incidentally it cannot fail



to simplify the problems of ammunition supply and fire control, both of which powerfully influence rapidity and accuracy of fire. The General Board therefore recommends that, if found practicable, the battle-ship be given a battery of heavy turret guns, none of which shall be less than 10 inches, and at least four of which shall be 12 inches, without intermediate battery, the secondary battery to be unprotected by armour, the smoke-pipe and air-ducts to be protected if possible as far as the upper deck by heavy armour. There should be no needless multiplication of calibres, and no introduction of new calibres, such as 9-inch or 11-inch guns. Furthermore, the change in battery from existing types must not entail any increase of weight to be compensated by diminished armour or coal; but rather, on the contrary, any weight saved should be added to the protection of flotation, stability, and steering gear. Finally, the increased ammunition supply necessitated by the increased rapidity of fire of heavy guns should be borne in mind. The battle-ships should carry submerged torpedo-tubes, one on each side, or preferably two on each side.

"The foregoing description of the new battle-ships' battery is expressed in somewhat general terms; but it cannot be made more specific until the Bureau of Construction and Repair has completed the tentative design asked for by the General Board on 26th January, 1904.

"No discussion of the characteristics of the armoured cruiser type is here given, because, for reasons before stated, no vessels of that class are recommended this year."

Of the five scout cruisers recommended, the Board says:—

"The General Board has just received from the Bureau of Construction and Repair preliminary plans showing that a speed of 24 knots, a steaming radius of 5,000 miles, and an armament of twelve 3-inch guns and two submerged torpedo-tubes have been found practicable in the new design within the limits of 3,750 trial displacement prescribed by the Appropriation Act. These features are suggested by the Board on Construction as the best practicable fulfilment of the general requirements recommended in the General Board's final report of last January. The General Board regards these preliminary plans as entirely satisfactory, particularly in respect to the large steaming radius, and recognises the advantages in scout cruisers, as in battle-ships, of avoiding multiplicity of calibres.

"The General Board recommends for destroyers a trial displacement of 400 to 450 tons (like those of the flotilla that went to China and the later "Truxtun"), with the coal capacity and battery of the "Truxtun," of very strong construction for safety and efficiency in rough weather, and the highest speed found attainable in association with those features, and durable machinery. The great value of a powerful battery has been emphasised in the Russo-Japanese war. This is substantially the same type as recommended last year.

"The torpedo-boats recommended are of the "Morris" type, and must be capable of passing under their own steam through the canals and inland waters from New York to the Sounds of the Carolinas.

"The General Board recommends the same type of squadron collier as described in its report last year (26th January, 1904.)"—*U.S. Army and Navy Journal*.



## MILITARY NOTES.

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**HOME.**—The following are the principal appointments which have been made:—

**Lieut.-Generals**—Lieut.-General the Hon. Sir N. G. Lyttelton, K.C.B., Chief of the General Staff, to be General.

**Major-Generals**—Major-General Sir Beauchamp Duff, K.C.V.O., C.B., C.I.E., I.A., is granted the rank of Lieut.-General in the Army. Major-General J. C. Dalton, from Commanding Royal Artillery, Gibraltar, to be Inspector of Royal Garrison Artillery.

**Colonels** — Lieut.-Colonel and Brevet Colonel H. R. Kelham, C.B., from h.p., to be a Brigadier-General, to Command the Lowland Grouped Regimental District, and is granted the substantive rank of Colonel, with the temporary rank of Brigadier-General whilst so employed. Colonel T. Perrott, C.B., from a Commander Royal Garrison Artillery, to be a Brigadier-General, to Command Coast Defences, and is granted the temporary rank of Brigadier-General whilst so employed. Colonel C. W. Park, A.D.C., to be a Brigade Commander in India, with the temporary rank of Brigadier-General whilst so employed. Colonel C. A. Anderson, C.B., to be a Brigade Commander in India, with the temporary rank of Brigadier-General whilst so employed.

To be Colonels on the Staff in India: Colonel M. H. S. Grover, I.A., Colonel E. H. Molesworth, I.A., and Lieut.-Colonel and Brevet Colonel H. L. Dawson, C.V.O., C.B., I.A., who is granted the substantive rank of Colonel in the Army. To be D.A.G. at Headquarters, India: Lieut.-Colonel and Brevet Colonel F. C. Beatson, C.B., from the Duke of Edinburgh's (Wiltshire) Regiment, and is granted the substantive rank of Colonel in the Army. To be A.A.G. of a Command: Colonel A. H. M. Edwards, C.B., M.V.O. To be A.Q.M.G. at Headquarters, India: Colonel F. G. Bond, C.B. To be A.Q.M.G. of a Command: Lieut.-Colonel and Brevet Colonel J. G. Ramsay, C.B., I.A., and is granted the substantive rank of Colonel in the Army; and Colonel A. B. Fenton, I.A.

Colonel F. T. Clayton, C.B., from Assistant Director of Transport, to be Director of Supplies at Headquarters, and is granted the temporary rank of Brigadier-General whilst so employed. Lieut.-Colonel and Brevet Colonel H. M. Carter, C.B., from a Chief Inspector, A.O.D., to be an Assistant Director at Headquarters, and is granted the substantive rank of Colonel in the Army. Lieut.-Colonel and Brevet Colonel E. R. Kenyon, from h.p., to be a Chief Engineer, and is granted the substantive rank of Colonel.

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*The General Annual Report of the British Army for the Year ending 30th September, 1905, was issued early in April last. The following table taken from it shows the establishment and strength of the Regular*

Forces, Army Reserve, and Auxiliary Forces on the 1st October, 1905 :—

	ALL RANKS.			
	Estab- lishment (Army Estimates).	Strength.	Wanting to complete.	Supernu- merary.
Regular Forces :—				
Regimental { British Establishment <sup>1</sup>	211,028 <sup>2</sup>	191,072	16,956 <sup>2</sup>	—
Establishments { Indian Establishment <sup>3</sup>	75,008	78,061	—	3,053
*Staff and Departments and Miscellaneous Establishments ... ..	2,752	2,752	—	—
	288,788	274,885	13,903	—
Army Reserve ... ..	104,000	94,770	9,230	—
Militia (United Kingdom) :—				
Permanent Staff ... ..	4,883	4,463	420	—
Militia ... ..	127,525	88,209	39,316	—
	132,408	92,672	39,736	—
Militia (Reserve Division) ... ..	7,500	7,657	—	157
Militia (Channel Islands, Malta & Bermuda) :				
Permanent Staff ... ..	178	160	18	—
Militia ... ..	5,566	5,103	558	—
	5,744	5,168 <sup>5</sup>	576	—
Imperial Yeomanry :—				
Permanent Staff ... ..	348	348	—	—
Yeomanry ... ..	27,290	24,811	2,479	—
	27,638	25,159	2,479	—
Honourable Artillery Company :—				
Permanent Staff ... ..	5	5	—	—
Officers and Members ... ..	899	524	375	—
	904	529	375	—
Volunteers (Great Britain) :—				
Permanent Staff ... ..	2,123	2,023	100	—
Volunteers .. ..	339,699	250,337	89,362	—
	341,822	252,360	89,462	—
Volunteers (Bermuda) :—				
Permanent Staff .. ..	5	5	—	—
Volunteers ... ..	314	166	148	—
	319	171	148	—
General Total ... ..	909,123	753,371	155,909	157
			155,752	
*Militia Reserve — Old (included with Militia) ... ..	—	229	—	228

<sup>1</sup> This includes Indian Native Troops employed in the Colonies and North China.

<sup>2</sup> 13,000 men (Infantry) were included in the Establishments to cover "temporary excess of ordinary establishments."

<sup>3</sup> These numbers do not include any officers or men of the Indian Army.

**FRANCE.**—*The Autumn Manœuvres for 1906.*—The 1906 manœuvres will be held under the following conditions, subject to Parliamentary credit vote on the War Budget for 1906.

### 1. *Army Corps Manœuvres.*

Army corps manœuvres will be carried out in the II<sup>nd</sup> Army Corps. These manœuvres will last for 11 days, not including the time necessary for movements of assembly and dislocation. For these manœuvres the 4th Infantry Division will be brought up to war strength; it will, in addition, be provided with the chief units for the service of supplies, which will act in conjunction with the services at the rear. The 3rd Cavalry Division, the group of the Zouave battalions from Paris, the 26th Chasseur Battalion, and the battalion of the 138th Regiment, quartered at Paris, will take part in these manœuvres. The artillery of the army corps will be completed: by 2 brigade divisions of the 6th Artillery Brigade, by a brigade division, and by 3 ammunition sections (1 infantry, 1 artillery, and 1 park) of the 19th Artillery Brigade, placed on a war footing, and to be attached to the 4th Infantry Division. The engineer service of the 4th Division will be completed by a bridging and by a park company. These 2 units will be on a war footing, and will be made up from the 3rd Regiment of Engineers.

### 2. *Fortress Manœuvres.*

A fortress manœuvre will be carried out in the VII<sup>th</sup> Army Corps before Langres, under the direction of the President of the Committee on the Study of Siege Warfare. It will last for 18 days, not including the time necessary for the preparatory installation works, as well as for the movements for assembly and dislocation. The following will take part in this manœuvre, in addition to the special foot artillery and engineer troops, who will be attached to the wagon-trains and to the siege parks of the attacking force, and to the garrison of the defence, viz.: The 13th Infantry Division; 2 groups of the fourth battalions of the VII<sup>th</sup> Army Corps; a regiment of the 7th Cavalry Brigade; and the 7th Artillery Brigade. The General Commanding the VII<sup>th</sup> Army Corps will command the attacking, and the Governor of Langres the defending force.

### 3. *Division and Brigade Manœuvres.*

Division manœuvres will be carried out for a period of 14 days, including going and returning, in the I<sup>st</sup>, III<sup>rd</sup>, IV<sup>th</sup>, VIII<sup>th</sup>, XII<sup>th</sup>, XIII<sup>th</sup>, XIV<sup>th</sup>, XV<sup>th</sup>, XVI<sup>th</sup>, XVII<sup>th</sup>, and XVIII<sup>th</sup> Army Corps.

Brigade manœuvres lasting for 11 days, including going and returning, will take place in the VI<sup>th</sup>, IX<sup>th</sup>, X<sup>th</sup>, XI<sup>th</sup>, and XX<sup>th</sup> Army Corps, in the 17th and 18th Brigades of the V<sup>th</sup>, and in the 27th, 28th, 81st, and 82nd Brigades of the VII<sup>th</sup> Army Corps. The 10th Division of the V<sup>th</sup> Army Corps will not take part in these manœuvres.

The troops quartered in Corsica will carry out manœuvres lasting for 11 days, including going and returning.

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<sup>4</sup> The Warrant Officers, N.C.O.'s, and men of the Army Pay Corps (900) who are shown in Army Estimates under Staff and Departments, are shown above under Regimental Establishments. The Officers are shown under Staff and Departments.

<sup>5</sup> Strength of Channel Islands Militia on 1st July, 1905.

<sup>6</sup> This Reserve is gradually dying out.



#### 4. *Camps of Instruction.*

In the 1st, II<sup>nd</sup>, VI<sup>th</sup>, X<sup>th</sup> XI<sup>th</sup>, XII<sup>th</sup>, XIII<sup>th</sup> XVI<sup>th</sup>, and XX<sup>th</sup> Army Corps, which have available on their own or on neighbouring districts the camps of instruction of Sisonne, Châlons, Coëtquidan, la Courtine, Larzac, and Mailly respectively, the generals commanding the army corps are ordered to make a return of the whole of the credits at their disposal for autumn and garrison manœuvres, for the purpose of carrying out combined manœuvres in the camp, to ensure the carrying out of musketry and to organise autumn and garrison manœuvres to the best advantage of the troops under their commands. In addition, combined drills and musketry will be carried out: at the camp at Châlons, by the 7th Division of the IV<sup>th</sup> Army Corps, and by the 10th Division of the V<sup>th</sup> Army Corps, at the camp at Mailly, by the 6th Division of the III<sup>rd</sup> Army Corps.

#### 5. *Cavalry Manœuvres.*

There will be carried out: *a.* A general cavalry manœuvre lasting for 8 days, including going and returning, by the 1st and 5th Divisions, under the President of the Technical Cavalry Committee; *b.* 6 divisional manœuvres lasting for 11 days, including going and returning, by the 2nd, 3rd, 4th, 6th, 7th, and 8th Divisions; *c.* Brigade manœuvres or drills of an average duration of 10 days, including going and returning, by the cavalry brigades of army corps. This period will be modified for certain divisions and brigades. These brigades, or their units, will, in addition, take part in the autumn manœuvres of their respective army corps.

#### 6. *Various Manœuvres.*

Independently of the manœuvres mentioned above, special manœuvres, which will form the subject of special instructions, will be carried out in the Vosges, the Alps, in Algeria, and in Tunis.

#### 7. *Requisitioning Exercises.*

A reserve squadron and an artillery brigade division will be put on a war footing by means of requisitioned horses, under reserve of the vote of a special law. The district in which these two units will be formed will be selected later.

#### 8. *Colonial Troops.*

The Colonial troops will take part, according to the credits which may be allotted for that purpose, in the various manœuvres of the Home troops belonging to the army corps districts in which the former are respectively quartered. The 5th Colonial Infantry Brigade, stationed in Paris, will manœuvre with the 6th Division of the III<sup>rd</sup> Army Corps. Expenses of all kinds resulting from the participation of the Colonial troops in the autumn manœuvres, especially those with regard to railway transport and horse hire, will be charged to the credits provided by the 2nd Section of the Budget.

#### 9. *Special Dispositions.*

*Infantry.*—Infantry regiments will march to the manœuvres with their 4 battalions, with the exception of those regiments in which a fourth battalion is not completely formed, and those of the VI<sup>th</sup>, VII<sup>th</sup>, XIV<sup>th</sup>, XV<sup>th</sup>, and XX<sup>th</sup> Army Corps, which will be composed of 3 battalions. Battalions of foot chasseurs will take part in the manœuvres with their respective army corps. The group of the Zouave battalions at Sathonay,

the units of the Lyons District Brigade quartered in that town, 2 Alpine battalions of the XIVth, and 2 Alpine battalions of the XVth Army Corps will take part in the manœuvres. The Alpine battalions will be selected by the generals commanding those army corps, and will be made up to 4 companies each. The 159th Regiment and the battalions of the Lyons District Brigade stationed in the Alps will not take part in the manœuvres.

*Field Works.*—The regulations of the 18th February, 1905, with regard to field works, must be rigidly adhered to. In the infantry, advantage will be taken of the manœuvres to familiarise battalion commanders with the employment of company wagons, by placing these wagons successively, and in bulk at their disposal in each regiment. It must be remembered that the number of company wagons to be taken to the manœuvres must not be less than 1 per battalion. Should the chevaline resources permit, it will be of interest to increase that number. This recommendation especially applies to regiments of 3 battalions, where it is desirable that each battalion commander should, as in 4 battalion regiments, have at his disposal, in turn, the 4 company wagons.

*Six-year-old Horses.*—As a tentative measure, six-year-old horses will be used for draught purposes in the following brigades: 2nd Cuirassier, 2nd Chasseur, 7th and 8th Dragoon, 3rd Cuirassier, 6th Dragoon, and the 1st Chasseur. Generals commanding these brigades will most carefully watch that these six-year-old horses are not, on any pretext whatever, employed otherwise except for draught purposes, and especially must they prevent the substitution of a six-year-old horse used for draught, for a saddle horse suffering from a sore back, etc., to permit the latter to recover. Each corps thus experimenting will furnish a report on the results achieved. These reports will be forwarded to the War Minister by division and brigade commanders with their own remarks.

*Ammunition.*—The supply of blank ammunition will be regulated in conformity with a table attached to the instructions which give details regarding its issue and expenditure.—*Revue du Cercle Militaire.*

GERMANY.—*Imperial Manœuvres of 1906.*—The German Imperial Manœuvres of 1906 will take place under conditions slightly out of the common. A reinforced army corps—the VIth, in Silesia—will oppose 2 normal army corps. This has been known for some time, but precise details were not forthcoming.

The 2 normal army corps—the IIIrd in Brandenburg and the Vth in the province of Posen and in Lower Silesia—will form an army group under a general commanding and his staff. This is the first time this procedure has been adopted since 1897. Mention has been made of the participation of a brigade of Saxon infantry in the forthcoming manœuvres, but this information has no foundation in fact; only a brigade of field artillery, a transport battalion, and 2 Uhlan regiments will be drawn from the Saxon troops. To form the 3rd Division for the VIth Army Corps the 5th Brigades of the Vth and VIth Army Corps will be used. As divisional cavalry, the VIth Army Corps can profit by its strong cavalry of 5, instead of the usual 4, regiments. Two cavalry divisions will be formed as in preceding years. Each side will be provided with a ballooning section; the pioneer service will be carried out by the battalions of the 3 army corps, and 8 transport battalions will form the subsistence columns.

The following will be the troops employed :—

*Blue Force.*—IVth Army Corps (the 11th, 12th, and 41st Infantry Divisions).

*Red Force.*—The army group, the IIIrd Army Corps (5th and 6th Infantry Divisions), and the Vth Army Corps (9th and 10th Infantry Divisions). These divisions will have 2 brigades of 2 regiments of 3 battalions each; a regiment of light cavalry or Uhlans; a field artillery brigade of 2 regiments of 6 batteries each (the 42nd Regiment has a horse artillery brigade division of 3 batteries and the reduced effective); and 1 or 2 companies of pioneers.

The army group formed by the IIIrd and Vth Army Corps will be given the "A" Cavalry Division as usual; the "B" Cavalry Division will be given to the VIth Army Corps. The 2 forces are, as will be seen, unequal :—

*Blue Force.*—36 battalions, 15 squadrons, 36 batteries, including 3 light howitzer batteries, and a cavalry division of 30 squadrons, 2 batteries of 6 guns, and 2 ammunition wagons, 2 machine gun sub-divisions, and a pioneer detachment.

*Red Force.*—48 battalions, 20 squadrons, 48 batteries, including 6 light howitzer batteries, and the cavalry division similar to that of the Blue Force.

Altogether 84 battalions, 95 squadrons, 88 batteries and 4 machine gun sub-divisions will take part in the manœuvres. The 155th and 158th Infantry Regiments, which have only 2 battalions, will receive a third battalion of reservists.

As regards the terrain, the theatre of manœuvres is situated in the lower plain of North Germany, partially broken in the south by the ranges of the "Riesengebirge."

#### *Other Manœuvres.*

Five cavalry divisions, A, B, C, D, and E, will be formed in the IVth, Vth, VIth, VIIth, and Xth Army Corps, and will carry out special manœuvres: the A Division at Posen, the B Division on varied ground, the C, D, and E Divisions respectively in the Camps of Instruction at Alten-Grabow, Elsenborn, and Munster. Each division consists of 3 brigades of 2 regiments taken from various army corps; at the same time, 1 brigade of C Division is composed of 2 regiments belonging to different brigades. One horse artillery brigade division, 2 machine gun groups, and 1 pioneer detachment is attached to each of these divisions. The cavalry of the A and B Divisions will not take part in the brigade and division manœuvres of their army corps.

Staff rides will be carried out by the cavalry in the Guards Corps, and in the IVth, VIIth, IXth, Xth, XVth, XVIIth, and XVIIIth Army Corps.

Telegraph exercises, lasting for 3 days, will take place in the IVth and Xth Army Corps.

The XIIth Army Corps will carry out an attack exercise (*Angriffs-übung*), for which it will be reinforced by the instruction battalion from the Foot Artillery School of Gunnery, by the necessary telegraph units and by a balloon section.

Grand Pioneer Manœuvres will be held on the Vistula, the Mulde, and the Elbe. Instructions regarding them will be issued by the Inspector-General of Pioneers.

The dismounted branches of the Service must be back in their garrisons by the 20th September, at the latest.—*Revue Militaire Suisse* and *Bulletin de la Presse et de la Bibliographie Militaires*.



RUSSIA.—*Lessons of the War: Infantry Action.*—The *Ruskii Invalid* continues its publication of the reports of the 35th Division on the lessons of the Russo-Japanese War. The following is a summary of what is said regarding infantry action:—

The method of infantry action in battle depends on the effects of its own and of artillery fire. Magazine rifles are all of about the same power. Rifle fire, however powerful it may become, does not suffice to destroy an enemy capable of repairing his losses and of renewing his efforts; success remains with that side which can the longest maintain its energy, and continues longest capable of striking. Numerical superiority at the decisive point, combined with an offensive spirit and tenacity, will always succeed, even at the cost of enormous losses. But it must be accompanied by an intelligent obstinacy, conscious of its power, of the excellence of the dispositions made, and of its opportunity. The bayonet has retained all its value; but its employment is not as frequent nowadays as in the past.

*Distances and Nature of Fire.*—The present rifle, if the supply of cartridges is sufficient, is capable of causing losses on large objectives at a range of 3,000 yards. Between 2,500 and 2,000 yards volley firing with fixed sights gives good results on extended formations, particularly as regards moral effect. At 1,500 yards independent firing will commence, as, in consequence of the efforts of both combatants to get under cover, there will no longer be any objectives for volley firing at that distance. Objectives are difficult to discern; when therefore they expose themselves, advantage should be taken of the fault as quickly as possible, use being made, if necessary, of magazine fire. From 1,500 yards only independent fire will be resorted to, varying in intensity according to the commands of the non-commissioned officers, or according to the personal initiative of the firers. Men should therefore be carefully trained in making great use of it. When an enemy's flank can be assailed, it invariably produces great disorder in the troops thus attacked. "When certain points in the enemy's position have been marked, it becomes possible to direct a hail of bullets on to them. This was the habitual practice of the Japanese infantry. As the distance decreases, objectives are better discerned, but jumpiness increases; it is then that the machine gun acquires enormous importance on account of the firmness of its gun-carriage. It mows down the assailants' lines and causes an immense moral effect.

The expenditure of ammunition is enormous. One of the regiments of the 35th Division, for instance, expended 1,920,730 cartridges between the 13th and 17th October. Its supply must be most carefully watched. Accuracy and rapidity of fire cannot be fully utilised except by means of a good service of observation, on account of the invisibility of formations. Skirmishers carry out this service along the front at a short distance. During the lulls in an action some observers should be left in each section, and use made of all favourable points, such as a tree, a house, etc., on the flank or rear, by placing there an observer provided with field glasses. "Only constant observation will enable one not to lose sight of the enemy, and to punish his smallest faults." Only such portions of the ground which completely escape the view of the enemy's observers can be regarded as sheltered. The best method to avoid losses is to be invisible; thus thinner formations are necessary. The greatest initiative must be allowed for the conduct of fire. Enormous expenditure of cartridges must be expected.

*Arrival in the Zone of Possible Action.*—At 3, 4, or even 5 miles of the battle-field column of route is abandoned in order to take massed formations, appropriate to the existing cover, to avoid the enemy's observers. The column commander therefore proceeds to the commander of the troops already engaged, or himself reconnoitres in advance if there is no one in front of him. The troops, kept in close formation, cover themselves without delay along the front and flanks by advanced posts, so as to prevent the enemy's patrols from seeing, and to reconnoitre the ground and ensure connection with neighbouring troops. For the battalion and the regiment these posts consist of a section reinforced by 3 or 4 mounted scouts; they advance to a distance of  $1\frac{1}{2}$  to 2 kilometres, entrench, organise a look-out, and link themselves together by means of patrols. These posts, reinforced if necessary, are most useful when deploying for action by forming *points d'appui*, when observation and connection are organised beforehand.

*Entry into the Zone of Fire.*—At 5,000 or 6,000 yards from the hostile artillery positions, battalions open out by companies, and the latter advance in line of sections by the flank, at 30 or 40 paces interval. Should natural cover exist, they are made use of without respect to distance or interval, excessive dispersion only being avoided. The advance is continued thus until the entry into the zone of rifle fire—about 2,000 yards in open country. The open spaces are traversed by sections, groups, or, if necessary, by men singly. All mounted officers should dismount, so as not to reveal the position of their men. Each company advances independently, without regard to alignment, halting preferably on positions which would be convenient for defence should the enemy take the offensive. On entering the zone of rifle fire, captains will advance to the front in order to reconnoitre their sector. As long as the ground is masked from the enemy's view the advance is continued in the same formation; if otherwise, companies deploy into lines of skirmishers. When the time for deployment arrives, the captain notifies the direction and the extent of the sector to his company, selects the sections for the skirmishing line, and sends two or three patrols on the line fixed for the deployment. "When these patrols signal that an advance is possible, the commander of the skirmishing line sends detached groups to the front. These groups conceal themselves whilst advancing, so that the enemy may not guess that a deployment is about to take place, and form up on the position at intervals of about 30 paces. They examine the front, select a convenient line of fire, and lie down. Section commanders deploy their sections under cover and immediately advance, either simultaneously, by groups, or man by man. Corporals mark the position of their squads; all corrections must be made lying down; the skirmishing line then detaches its observers, at the rate of one or two per section."

*The Advance.*—The advance is continued by the same method, whilst endeavouring to reach the distance of from 800 to 600 yards of the enemy without fatiguing the men, and avoiding rushes at racing speed as far as possible. As a rule opening fire from a new position does not commence until everyone has arrived there, so as to avoid drawing the fire of the enemy before the skirmishing line is in position. At short distances, under a hot fire and when the movement can no longer be carried out concealed from view, the men who have already rushed or crawled forward, immediately open magazine fire to protect the movement of the others. At 600 or 500 yards the cartridges are finally re-completed. Section commanders point out the position of the next halt, and the men gain the new position individually by running or

crawling. "The squad commanders should only move after ascertaining that all their men are well to the front. The enemy's position is then assailed by a hail of the hottest fire, delivered from each of the halting positions of the skirmishing line; this fire is continued up to the closest range. The bayonet attack then becomes practicable. The skirmishing line becomes visible, it is true, but the nerves of the enemy under cover have become so shattered that he is no longer in a position to inflict losses." The assault is delivered when it has been sufficiently prepared for by gun and rifle fire, or when the units selected for acting on the flank are in a position to come into action. The fire is increased up to its maximum intensity, and the unengaged sections of the companies in the skirmishing line rejoin the latter, carrying them forward with them; the reserve companies come up as close as possible, and when between 50 and 60 paces from the enemy the men dash forward cheering.

After driving out the enemy the skirmishing line pursues with the bayonet for 100 or 200 yards, then halts and opens magazine fire on the fugitives. The reserve continues the offensive movement, one of its units occupying the position seized. A hail of shrapnel, carried out at the last moment, enfilading if possible and bearing, at the moment of the assault, on the ground immediately in rear of the hostile position, greatly facilitates the execution of the attack.

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*Lessons of the War: The Importance of the Rôle of the Officer in Infantry Action.*—An article in the January number of the *Revue Militaire des Armées Etrangères* on "Infantry Fighting in the Russo-Japanese War," by Captain Soloviev, who commanded a company of the 34th Regiment of the 1st Siberian Army Corps, is of great interest, and especially so in the stress the author lays on the importance of the part played by the officer in infantry action. He says:—

"From the first rifle shot the centre of gravity shifts to the officer, and it is then that the enormous responsibility resting with him clearly manifests itself. The more painful the conditions of the action, the more desperate the fighting, the heavier the losses, so much the greater becomes the rôle of the officer. The result of the action of 200 men entirely depends on the company commander. The recent war may be called the war of company commanders. Every eye-witness of a battle will confirm my assertion. Soldiers observe their officers incessantly. It is on his discernment, on his energy, and on his personal bravery that their very existence depends. It is according to his attitude that the men judge of the danger, more or less, of the situation. The authority of the officer may rise to very great heights; but on the other hand, it may fall very low. The worst thing is to allow slackness or pusillanimity to appear; the company will soon get out of hand, and it can no longer be relied on to continue to advance with spirit.

"In action, more than ever, the officer should *command*, and the discipline should be one of iron. Nowhere does discipline assert itself more than in battle. Unfortunate indeed is the company which in peace time has not been imbued to the marrow with the spirit of discipline. In war it will pay dearly for it. I have observed that in the most critical moments an energetic exclamation, uttered in a peremptory tone, has a marvellously calming effect on the men. It is also a good thing to make such remarks as: 'Why, in such a section, are the sights not raised? Section commander, what are you thinking about? Correct it at once!' Because the commander is annoyed and notices omissions, everything must



be going on as it should, nothing particular is happening, there is nothing to be feared. The men become easy, they forget the whistling of the bullets, try to adjust their sights properly, and begin to take aim. The frequent changes which take place, on account of the necessity of providing fresh supplies, in both officers and men exercises a baneful effect in the *moral* of troops. Thus, on the 21st October, after the attack on the Tuminlin Hill there only remained 2 officers in the ranks of the 34th Regiment of Siberian Rifles, and after the affair at Sande-pu, after the corps of officers had been newly re-completed, only 4 or 5 officers. As regards the men, 40 per cent. were put out of action at Liao-yang, and 75 per cent. at Sande-pu. The regiment found itself reduced to 5 companies.

“With such enormous losses, the re-supply of officers and men, which was continually flowing in, never got to know one another. It was only by profiting by each lull in the operations that the company commander got to know his men and they got accustomed to him; but the first action once more changed the composition of the company like a kaleidoscope. The inevitable result of these perpetual changes was that the narrow band of responsibility was broken, even in the company sections. It therefore appears to me that it would be necessary to have stronger cadres in peace time, so that, even after considerable loss, there would still remain enough men in the ranks to form the backbone of the regiment.”

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*What does the Russo-Japanese War teach us?* The reply to this question is given by the *Militär-Wochenblatt* in conclusion to a series of articles entitled “Tactical Events of the Russo-Japanese War,” and which especially deal with the rôle of infantry. The following is what the Journal in question says on the subject:—

“The Russo-Japanese War puts us particularly on our guard against an exaggeration of the importance of ground cover, and against the dread of delivering an attack—two things which threatened to become implanted in Armies after the events of the South African War. There is no law which sanctions the idea of the impossibility of carrying out an attack across an open plain. The opinion, according to which a frontal attack is impracticable in the face of modern weapons—an opinion so frequently maintained in England—is indefensible. There is, as a matter of fact, one thing superior to the power of fire; it is the desire to come to grips with the enemy.

“This was demonstrated by our troops in 1870, as well as by the Japanese during the late war. It is to that that we must constantly revert. The principles of our regulations have been amply vindicated by the war in Asia. At present the attack consists in throwing forward a line of skirmishers delivering a heavy fire. The method of doing so depends on each particular case. What is of special importance is to convince the soldier of this, viz.: losses are inevitable, and they must be borne up to a certain point; the marksman should not throw himself on to the ground before a projectile has first hit a man in the skirmishing line. The general watchword should be: ‘Advance towards the enemy up to the range for efficacious fire.’ This, however, is only possible if we do everything in our power to increase the authority of the officer over his men. The latter should remain under the command of their immediate chiefs as long as it is humanly possible.

"But the most efficacious fire itself should not be sufficient to turn a tenacious enemy out of his positions. Experience proves that the fire fight may be kept up for hours at a range of 400 yards. A courageous enemy does not yield except to an actual bayonet attack. The more he is convinced that he exposes himself to destruction if he rises and retires, if he abandons the position, the longer will he remain before yielding. We should not give up the bayonet attack in close order, for it constitutes, and will always constitute, the crowning of the edifice. In this regard there is always one primordial condition, viz.: that the men must have confidence in the *arme blanche*, and that they should be trained to bayonet fighting in peace time. This training forms the moral counterpoise to all improvements in fire-arms. I also openly assert that bayonet fighting should be more rationally and more frequently practised. The basis of success lies not merely in the training of a man as a marksman, but in the individual perfecting of all his faculties; that is to say, that equal importance should be attached to shooting, bayonet fighting, and to the use of the spade."—*Internationale Revue über die Gesamten Armeen und Flotten*.

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## CORRESPONDENCE.

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### THE TACTICAL EMPLOYMENT OF PACK ARTILLERY: A CRITICISM.

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To the Editor of the JOURNAL OF THE ROYAL UNITED SERVICE INSTITUTION.

SIR,—Major K. K. Knapp, R.G.A., in Vol. L., No. 836, JOURNAL of the Royal United Service Institution, published 15th February, 1906, in an article under the above heading, makes certain suggestions regarding "Pack" or "Mountain" Artillery, which appear open to criticism. This I venture to offer in a friendly spirit.

Major Knapp's suggestions are, briefly:—

1. One mountain battery should be added to each brigade of infantry, or in the case of an army corps of three divisions, two brigades of mountain artillery should belong to the corps artillery, and that, should this scheme be carried out, an equivalent amount of field artillery be withdrawn.
2. That the mountain batteries should be "Brigade" and not "Divisional" Artillery.
3. That the only brigade of horse artillery on the establishment of an army corps should be abolished, and replaced by a heavy artillery brigade.

1. As regards the first suggestion, Major Knapp, in his second paragraph, says:—"It would be unsound to advocate the use of mountain guns in places where wheeled artillery can be equally well employed, but there must be undoubtedly many occasions even in European warfare when pack artillery would be of value on account of its great mobility.

*Batteries of guns carried on pack animals. . . . can easily negotiate hills, woods, broken or close country, which would be difficult, if not impassable to wheeled artillery, unless roads exist or passages have been previously prepared."*

Few will cavil at the truth of the foregoing, but it is difficult to realise how the writer can reconcile the above with the suggestion that two brigades of mountain artillery should accompany an army corps on all occasions.

On fair roads and good country the traction power of any animal is of far greater value than his carrying power. The disappearance of the pack horse from England and most European countries exemplifies this. Artillery will therefore never be carried on the backs of men or animals if it can possibly be moved on wheels.

The difficult nature of ground in Afghanistan, the frontiers of India, and Manchuria, over which armies are at times forced to move, alone caused the necessity for "pack artillery." Under normal conditions of warfare in Europe, Africa, and India, wheeled artillery can accompany any force.

For fighting under *abnormal* conditions, pack artillery may be a necessity. Manchuria is without doubt a country in which pack artillery is very valuable; but even so, why should we cater in our *normal* establishments of an army corps for an *abnormal* state of affairs, and turn nearly 30 per cent. of our field artillery into "pack" artillery?

As regards the relative values of the gun, an army corps commander would hardly agree to exchange no less than thirty-six 18-pounder Q.F. field guns for a similar number of 10-pounder mountain guns, *unless* the nature of the country was so rugged that this loss of gun power was forced upon him.

The admission, therefore, of pack artillery into any force is entirely a question of the nature of the country. It exists where it is required, viz., on the Indian Frontier.

2. *As regards the suggestion that each infantry brigade should have a mountain battery belonging to it*, Major Knapp builds up his arguments on the statement that pack artillery is peculiarly suited to work with infantry—

- a. Because of its mobility.
- b. Because it can take more advantage of cover.
- c. Because it can support infantry more closely.

*Concerning mobility*, I disagree with Major Knapp's interpretation of the term mobility. A *mobile column* is usually taken to mean a column which can move rapidly. If field artillery can be taken into action, even at a walk, it must be preferable to the lighter equipment throwing a smaller projectile. To support infantry, flank marches may have to be made by artillery at a rapid rate, which mountain artillery could not do, unless the nature of the country is so rough as to prohibit the use of wheeled artillery. Therefore, one cannot agree with the statement: "*With the addition of batteries of pack artillery the necessity for the brigade of horse artillery (with an army corps) will cease to exist.*"

*Concealment.*—It is obvious that pack artillery can conceal themselves behind cover which would offer no concealment to wheeled artillery, before opening fire, such as low hedges, standing corn, and such like, but from a position behind a hill cover can usually be obtained by any nature of artillery. But when in action the pack artillery may find itself opposed to Q.F. field guns of far greater weight of metal and possessed of shields.



The contest would be most unequal and the result inevitable, viz., that the infantry would not get any support from their mountain guns, which must be silenced.

If, therefore, artillery desire to support infantry they must be prepared to face the fire of modern Q.F. field artillery, unless the nature of the country is such that wheeled artillery cannot be made use of.

The question of having the bulk of the artillery with an army corps "divisional," and not part and parcel of infantry brigades, has been settled, principally on account of the difficulty of ensuring combined action on the part of the guns when required. Under our present system, a battery or a brigade can always be attached to an infantry brigade, if required for any special purpose.

In operations against an enemy not possessed of artillery, no doubt, the permanent dispersion of artillery units is to be recommended.

For example (to quote from a report on the recent German South African campaign against the Hereros, where dispersion of artillery even by sections in stationary camps, on the march, or in action took place), we read: "*This dispersion is moreover without danger so long as the Hereros do not possess artillery.*" This points to the fact that other European Powers regard the permanent dispersion of artillery units with disfavour.

3. Major Knapp's proposal to abolish the only brigade of horse artillery with an army corps has been touched upon under the remarks on "Mobility." The addition of a brigade of heavy artillery would in no way compensate for the loss of this mobile unit. Nor does his consideration contained at the end of his sixth paragraph clear up the situation: "*It is a matter for consideration whether it would not be advisable to add a second (horse artillery) brigade to the strength of a division of cavalry.*"

Now, to saddle a cavalry division with two brigades of horse artillery permanently would, in these days of Q.F. batteries and consequent increase in ammunition wagons, considerably hamper the free movement of the division, and cause its commander much anxiety. Under existing conditions the horse artillery with a cavalry brigade can be augmented by attaching to it horse artillery from the corps artillery; but it is thought that such augmentation would only be desirable to meet special purposes.

*Tactical Employment.*—As regards the tactical employment of "pack" or mountain artillery, it would appear (from Major Knapp's quotations from "Combined Training") that the same broad principles which govern the employment of wheeled artillery, apply equally to pack artillery.

To conclude, I entirely agree with Major Knapp that a mountain artillery unit (or units) should be maintained at home for use with an expeditionary force, if called upon to operate in a country necessitating the employment of pack artillery; but I strongly deprecate turning any portion of the Q.F. field artillery allotted to an army corps into pack artillery or substituting a brigade of heavy artillery for the brigade of horse artillery with the corps artillery. Finally, I consider that "Combined Training" deals sufficiently with the tactical employment of artillery in the field, whether it is pack or wheeled artillery.

J. G. GEDDES, Major, R.F.A.

Hilsea,

March 8th, 1906.

## NAVAL AND MILITARY CALENDAR.

APRIL, 1906.

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- 2nd (M.) H.M.S. "Katoomba" arrived at Portsmouth from Australia.
- 4th (W.) 1st Bn. Duke of Cornwall's Light Infantry arrived in England from South Africa in the "Soudan."
- 5th (Th.) H.R.H. the Princess Royal presented a new Standard to the 7th (Princess Royal's) Dragoon Guards, at Canterbury.
- " " Intelligence received from Natal that rebellious natives, under Bambaata, came into collision with the British.
- 6th (F.) British force moved from Greytown, Natal, against the rebel chief Bambaata.
- " " H.M.S. "Donegal" arrived at Plymouth.
- 7th (Sat.) Bambaata escaped over the border into Zululand.
- " " The Morocco Conference terminated, the Acte Général being signed.
- 9th (M.) H.M.S. "Bonaventure" arrived at Plymouth from China.
- " " Launch of Japanese first-class armoured cruiser "Ikoma" from Imperial Dockyard at Kure.
- " " Launch of first-class armoured cruiser "Ernest Renan" from Penhoet Yard, St. Nazaire, for French Navy.
- 10th (T.) H.M.S. "Donegal" paid off at Devonport.
- " " H.M.S. "Monmouth" commissioned at Devonport.
- " " H.M.S. "Wallaroo" paid off at Devonport.
- 11th (W.) H.M.S. "Hogue" arrived at Plymouth from China.
- 12th (Th.) H.M.S. "Monmouth" left Plymouth for China.
- 17th (T.) Torpedo-boat No. 84 sunk off Malta during manœuvres by destroyer "Ardent." Crew saved.
- 20th (F.) H.M.S. "Hyacinth" paid off at Devonport from East Indies
- 26th (Th.) H.M. the King of Spain inspected the 1st Bn. Royal Fusiliers at Parkhurst, Isle of Wight.
- 27th (M.) H.M.S. "Queen" arrived at Portsmouth from Mediterranean.
- 28th (Sat.) H.M.S. "Sutlej" arrived at Spithead from China.
- 30th (M.) 1st Bn. Lancashire Fusiliers left Malta for Egypt in the "City of Athens."
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## FOREIGN PERIODICALS.

## NAVAL

ARGENTINE REPUBLIC.—*Boletín del Centro Naval*. Buenos Aires : January and February, 1906.—"Lieutenant-General Bartolomé Mitre : Obituary Notice." "The Naval Battle, 10th August, 1904 : A Study on Naval Tactics." "The Accuracy of the Sextant in Estimating Distances." "Rules for Conducting the War Game." "A Great Misfortune." "The Theory and Practice of Steam Generation." "The Navy in History." "Naval Armaments."

AUSTRIA-HUNGARY.—*Mittheilungen aus dem Gebiete des Seewesens.* No. 5. Pola : May, 1906.—“The Reform in the English Navy, 1903-5.” “A Contribution to the Armament Question of Battle-ships and Armoured Cruisers.” “Proposals for the Extension of the Simon System of Night Signals for the Mercantile Marine.” “Double-ended Water-tube Boilers.” “A Petroleum Motor Torpedo-boat.” “An Apparatus for Determining the true Direction and Speed of the Wind.”

BRAZIL.—*Revista Maritima Brasileira.* Rio de Janeiro : January, 1906.—“A Catastrophe.” “The ‘Aquidaban.’” “Obituary Notices of the Officers Lost.” “Foreign Sympathy.”

CHILI.—*Revista de Marina.* Valparaiso.—Has not been received.

FRANCE.—*Revue Maritime.* Paris : March, 1906.—Has not been received.

*Questions Navales : Revue Générale de la Marine.* Paris : 25th March, 1906.—“The Officers of our Mercantile Marine.” “The Navy Budget in the Chamber.” “A *propos* of the ‘Henri IV.’” “The Isoscope.”

*La Marine Française.* Paris : March-April, 1906.—“The Truth about the Naval Programme.” “The Workman in the Naval Dockyards: The Economic Point of View: The Directing *Personnel*: The Syndicates.” “The Recruiting for the Navy and Two Years’ Service: Report to the Minister of Marine:—

1. Historical and General Considerations on the Obligatory Period of Active Service in the Fleet;
2. The Necessity for a Special Law;
3. The Impossibility of assuring under Normal Conditions with Two Years’ Service of the Preparation, Formation, and Training of the Crews;
4. Needs of the *Personnel*: Increase in the Necessary Effectives: Supply from the *Inscription Maritime* more and more insufficient;
5. The Limits within which the Needs—in *Personnel*—of the Fleet can be assured by the Two Years’ Service.”

*Le Yacht.* Paris : 7th April, 1906.—“Some Reflections on the Lot of our Fishermen.” “Yachting Notes.” “The Japanese Battle-ship ‘Kashima.’” “Sea Art Exhibition.” 14th April.—“The Naval Budget in the Senate.” “Yachting Notes.” “The New German First-class Armoured Cruiser ‘Scharnhorst.’” “The Meissour Screw.” 21st April.—“The Displacement of Racing Yachts.” “Yachting Notes.” “The Merchant Marine Act.” “The Action of the Automobile Torpedo.” “The New Trans-Atlantic Mail Steamer ‘La Provence.’” 28th April.—“The Turbine Question.” “Yachting Notes.” “The New English Submarines.” “The Netherlands Battle-ship ‘Tromp.’”

*Le Moniteur de la Flotte.* Paris : 7th April, 1906.—“A *propos* of the ‘Dreadnought.’” “The Superior Council of National Defence.” “The Navy in Parliament.” “The Loss of the ‘Sully.’” 14th April.—



"The Report of M. Cuvinot on the Naval Budget." "The Naval Estimates in Parliament." "The Embarkation and Disembarkation of the Personnel of the Fleet." 21st April.—"A *propos* of Wireless Telegraphy." "The Navy in Parliament." 28th April.—"Destroyers and Scouts." "The German Naval Estimates." "The Explosion on Board the 'Couronne.'" "

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GERMANY.—*Marine Rundschau*. Berlin : May, 1906.—"The Fighting Instructions of the English Fleet and the Sea Fights of the 18th Century." "Railway Construction and Railway Construction Policy in China." "The Battle in the Japanese Sea, 27th-28th May, 1906." "Turbine Engines for Torpedo-boats." "The French Naval Estimates before Parliament." "The Spring Meeting of the Institution of Naval Architects, 4th-6th April, 1906."

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ITALY.—*Rivista Marittima*. Rome : April, 1906.—"On the Opening of the Simplon Tunnel." "Calculation of Muzzle Velocities by means of Impulsometers." "The Art of War from Alexander to Oyama." "The Mathematics of Tumble-home Sides and Curved Decks."

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PORTUGAL. — *Revista Portuguesa, Colonial e Maritima*. Lisbon : March, 1906.—"The Lighting and Buoying of the Bay of Lourenço Marques." "A Japanese Embassy to Europe in the 16th Century" (*concluded*). "The Propaganda of the German Colonial Society." "Importance of the Portuguese Colonial Products in Germany." "The Colonial Movement."

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*Annaes do Club Militar Naval*. Lisbon : February, 1906.—"On Turbines." "On Compass Deflectors." "A Study on External Ballistics." "A Practical Expedient for the Improvement of Aiming."

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SPAIN.—*Revista General de Marina*. Madrid : April, 1906.—"The Economical Industrial Organisation of the Dockyards." "The Submarines 'Holland' and 'Lake.'" "The Grand Manœuvres of the English Fleet." "A Sanitary Report." "The Measurement of High-Frequency Currents and Electric Waves" (*continued*). "The Influence of Age on the Capacity of the Senior Officers of a Navy" (*concluded*). "A Note on the Firing Practice of Heavy and Siege Artillery at the Camp of Carabanchel." "The Blockade of Port Arthur from its Naval Aspect." "Lessons?" "The Zeiss Stereoscopic Range-Finder." "Explosion Motors and Electricity." "The New Beadmore Guns."

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## MILITARY.

ARGENTINE-REPUBLIC.—*Revista del Boletín Militar del Ministerio de Guerra*. Buenos Aires : January, 1906.—Has not been received.

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AUSTRIA-HUNGARY.—*Danzer's Armee-Zeitung*. Vienna : 5th April, 1906.—"On the Practical Training of our Cadets." "Honorary Rank in the Regular Army." "Military Ballooning in the Last War." "From the German Army." 12th April.—"Promotion." "What Lessons can

be drawn, with regard to the Infantry Attack, from Information received up to date on the Russo-Japanese War?" (*continued*). 19th April.—"1846-1906." "The Custom House." "Recollections of Voyages." "Aphorisms." 26th April.—"The Hungarian Military Press." "Practice-Firing Apparatus for Infantry." "Individual Works on the Russo-Japanese War." "Corrections in Praise of Turkish Military History."

*Mittheilungen über Gegenstände des Artillerie- und Genie Wesens.* Vienna: April, 1906.—"On the Rational Execution of Artillery Gunnery Practices." "Contributions to the Study of the Battles round Port Arthur." "On the Statistics of Thunder-claps."

*Die Militarische Welt.* Vienna: 6th April, 1906.—"Introductory Preface." "The First Attempt at a General Revolution in Hungary and Vienna." "Standing Garrisons in Italy." "War-dogs when in front of the Enemy." "The Emperor William on the Bayonet." "Cavalry in the last War." "The Military Forces of Montenegro, Servia, and Roumania." "Pioneer Troops." "Notes of a Sister of Charity." "War Episodes from Manchuria." "Military Intelligence."

*Organ der Militär-wissenschaftlichen Vereine.* Vienna. Vol. LXXII. Parts 3 and 4. 1906.—"Physical and Moral Qualities in the South African War, 1899-1902." "The Question of Clothing and Equipment for Field Service." "On the Tactical Training of Infantry and Lessons from the Russo-Japanese War." "Field Engineering in the War in the Far East."

*Streffleurs Oesterreichische Militärische Zeitschrift.* Vienna: April, 1906.—"Attempted Psychological Study of a People's War." "Experimental Shooting at Army Musketry Schools in 1905." "Wireless Telegraphy." "Thoughts about our Weapons." "The Italian Cavalry, Artillery, and Engineers." "The Russo-Japanese War" (*continued*). "Progress in Foreign Armies, 1905." "On Clothing and Equipment in the Field." "Intelligence from Foreign Armies."

**BELGIUM.**—*Bulletin de la Presse et de la Bibliographie Militaires.* Brussels: 31st March, 1906.—"Landings" (*concluded*). "The Battle of Tsu-Shima and the Naval Lessons of the Russo-Japanese War" (*continued*).

15th April, 1906.—"The Battle of Tsu-Shima and the Naval Lessons of the Russo-Japanese War" (*concluded*). "The Q.F. Gun and Artillery Training." "The Russo-Japanese War" (*continued*). 30th April.—Has not been received.

**FRANCE.**—*Revue du Cercle Militaire.* Paris: 7th April, 1906. —"Study of Military Legislation." "General Causes of Russian Defeats" (*continued*). "Military Legislation in the Italian Parliament." "The German Infantry Attack in 1902" (*continued*). 14th April.—"Regimental Lectures on Reciprocity." "General Causes of Russian Defeats" (*concluded*). "Study of Military Legislation" (*continued*). "The German Infantry Attack in 1902" (*continued*). 21st and 28th April.—Have not been received.

*Revue Militaire des Armées Etrangères.* Paris: April, 1906.—"Renewal of Field Artillery Matériel in Foreign Armies." "Military Reorganisation of China" (*continued*). "The Italian Grand Manœuvres of 1905."

*Le Spectateur Militaire.* Paris: 1st April, 1906.—“Recruiting and Promotion of Officers.” “Personal Recollections of Verdy du Vernois, 1870-71” (continued). “The Russo-Turkish Campaign of 1877-78” (continued). “The Dangers of Firing with Blank Cartridges” (translation from the German). 15th April.—“Recruiting and Promotion of Officers” (continued). “Personal Recollections of Verdy du Vernois, 1870-71” (continued). “The Russo-Turkish Campaign of 1877-78” (continued). “The Dangers of Firing with Blank Cartridges” (continued).

*Revue de Cavalerie.* Paris: March, 1906. — “Letters of an Old Cavalryman.” “School of Grouped Cavalrymen.” “The Short Period of Service and Cavalry Preparation for War” (concluded). “Tactics of Heavy Mobile Artillery.”

April, 1906.—Has not been received.

*Revue d'Artillerie.* Paris: February, 1906. — “Goniometre and Battery Telescope.” “War Game applied to Coast Gunnery.” “United States Rifle, Model 1903.”

March and April, 1906.—Have not been received.

*Revue du Génie Militaire.* Paris: March, 1906.—“The Siege of Port Arthur.” “Military Telegraphy in the Russo-Japanese War.” “Instantaneous Metallic Fascine Revetment.”

April, 1906.—“The Siege of Port Arthur” (Appendix). “Note on the Accommodation for Married Non-commissioned Officers in a Barrack in the East of France.” “Description of a Screen for Closing a Balloon Shed.”

*Revue du Service de l'Intendance Militaire.* Paris: March, 1906.—“Study of the Water Supply of the Town of Aumale.” “Methods for the Checking of Army Accounts” (continued). “Analysis of Cereal Food-Stuffs.” “Notes on the Norman Prairies.” “Changes Introduced into the Uniform of the Army.”

April, 1906.—Has not been received.

*La Revue d'Infanterie.* Paris: April, 1906.—“The 1905 Grand Manœuvres.” “Critical Study of the English Regulations for the Three Arms” (continued). “Investigations for the Lightening of the Infantryman's Load and for the Improvement of his Field Rations.” “Infantry Musketry Instructions of the 2nd November, 1905.”

*Journal des Sciences Militaires.* April, 1906.—Has not been received.

*Revue d'Histoire.* April, 1906.—Has not been received.

GERMANY.—*Militär Wochenblatt.* Berlin: 3rd April, 1906.—“On the Training and Development of Field Artillery.” “A Simple, Practical Method of Training for Bayonet Fighting.” “From the Peruvian Army.” 5th April.—“Wireless Telegraphy during War and Neutrality.” “Considerations on a March in Force by a French Cavalry Division.” “The Drill Regulations” (concluded). 7th April.—“The Siberian Railway in the Russo-Japanese War.” “A New Military Organisation of the Swiss Military Defence Forces.” “Wireless Telegraphy during War and Neutrality” (concluded). 10th April.—“On the Insurrectionary Movement in German West Africa from August to November, 1905.” “Field Artillery Re-armament in Belgium.” “New Battle Regulations for the Bulgarian Infantry.” 12th April.—“On the Insurrectionary Movement in German West Africa from August to November, 1905” (continued).



"Collection." 14th April.—"Napoleon and England." "On the Insurrectionary Movement in German West Africa from August to November, 1905" (*concluded*). "Remarks on Shelter Trenches." 19th April.—"The Defence and Explanation." "Grazing Shot in Artillery Action." 21st April.—"Karl Reisner, Freiherr von Lichtenstern." "The Japanese Method of Attack." "Riding in the Field Artillery." 24th April.—"Artillery Tactics." "From the Annual Report of the Inspector-General of the United States Army." "Intelligence from the Belgian Army." 26th April.—"Intelligence from the Russian Army." "Artillery Tactics" (*concluded*). 28th April.—The Russian Infantry General von Woyde, and his Works." "The New Edition of Lieut.-General Rohne's Musketry Lessons." "Intelligence of the Austro-Hungarian Forces."

*Internationale Revue über die gesamten Armeen und Flotten.* Dresden: April, 1906.—"Military and Naval Intelligence from Austria-Hungary, Brazil, Bulgaria, Chili, Denmark, France, Germany, Great Britain, Greece, Holland, Italy, Japan, Roumania, Russia, Switzerland, Turkey, and the United States." *Supplement 73*.—"Experiences of the Russo-Japanese War." *French Supplement 85*.—"Evolution towards a Single Type of Projectile." "Artillery Action against Captive Balloons." "The "Dreadnought." "Musketry Trials and Experiments."

*Neue Militärische Blätter.* Berlin: February, 1906. Nos. 7 and 8.—"A Hitherto Missing Link in the History of Naval Tactics" "Medical War Game in Austria-Hungary." "The Manufacture of a Rifle." "Artillery War Experiences in the Far East." "French Expert Opinion on the Lessons of the Naval War in the Far East." "Chronicle of Events in Venezuela." "Military Intelligence."

March, 1906. No. 9.—"Organisation of the English Railway Department." "A Hitherto Missing Link in the History of Naval Tactics" (*continued*). "The Manufacture of a Rifle" (*continued*). "Chronicle of Events in the Caucasus." "Chronicle of Events in Venezuela" (*continued*). "Military Intelligence." No. 10.—"The English Naval Manœuvres." "Cavalry in the War in the Far East." "A Hitherto Missing Link in the History of Naval Tactics" (*continued*). "The Returning Russian Army." "The Manufacture of a Rifle" (*concluded*). "Heavy Field Howitzers in France." "Chronicle of Events in the Caucasus" (*continued*). "Chronicle of Events in Venezuela" (*continued*). "General Hagenan's Long-distance Ride." "Military Intelligence." No. 11.—"The Performances of the '98 Rifle with the 'S' Ammunition." "A Contribution to the Training of Officers and Candidate Officers on Leave of Absence." "A New Austrian Field Gun." "Foreign Opinions on the German Corps of Non-commissioned Officers." "Chronicle of Events in the Caucasus" (*continued*). "Chronicle of Events in Venezuela" (*continued*). "The Kaiser on the Bayonet." "Proposals with regard to Security Observations." "Military Intelligence." Nos. 12 and 13.—"What can the German Dockyards Accomplish?" "Broadening or Deepening of the Suez Canal." "A New Gun for the French Horse Artillery." "A Hitherto Missing Link in the History of Naval Tactics" (*concluded*). "The English Naval Manœuvres" (*continued*). "The Re-armament of the German Field Artillery." "The Performance of the '98 Rifle with the 'S' Ammunition" (*continued*). "The Fortifications of Greece." "Chronicle of Events in the Caucasus" (*continued*). "Raising of the Ships at Port Arthur." "Military Intelligence."

April, 1906. No. 14.—“The Performance of the '98 Rifle with the 'S' Ammunition” (*concluded*). “The English Naval Manœuvres” (*concluded*). “What can the German Dockyards Accomplish?” (*concluded*). “Retrospect of the Changes of Construction of the Artillery Protection Shields.” “English Army Questions.” “Military Intelligence.”

*Jahrbücher für die Deutsche Armee und Marine.* Berlin: April, 1906.—“On the History of our Drill Regulations.” “Fortifying the Terrain during the Battle.” “On the Campaign of Marengo.” “Is the Army a National School?” “The Relations between large and small Lords of the Manor.” “Changes in the Infantry Training Regulations.” “The Russian Field Gun.”

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ITALY.—*Rivista di Artiglieria e Genio.* Rome: February, 1906.—“The Efficacy of Shrapnel Fire.” “Power or Mobility.” “The Russo-Japanese War, 1905” (*continued*). “Large Reservoir of Armoured Cement for the Military Hospital at Rome.” “Inauguration of the Museum of Italian Military Engineering at the Castle of St. Angelo, Rome.”

March, 1906.—“The First Writer on the Utilisation of Natural Forces by means of Electricity and Electric Traction.” “Application of the Laws of Ratio.” “Spring Wheels.” “The Russo-Japanese War, 1905” (*concluded*).

April, 1906.—Has not been received.

*Rivista Militare Italiana.* Rome: April, 1906.—“To our Readers.” “The Programme of the ‘Rivista.’” “Military Questions: A Single Military School.” “Further Remarks on the Regulations for the Fire and Tactics of Horse and Field Artillery.” “The Propaganda against Military Institutions.” “Cyclists, Automobilists, and ‘Bersaglieri.’” “Defensive Tactics on the Alps.” “The Struggle of the Races of Mankind.” “Some Observations on the Problem of the Non-commissioned Officers.”

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MEXICO.—*Revista del Ejercito y Marina.* Mexico: February-March, 1906.—Has not been received.

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PORTUGAL.—*Revista de Engenharia Militar.* Lisbon: January, 1906.—Has not been received.

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*Revista Militar.* Lisbon: January, 1906.—“Tactics to be Employed against the Native Races of Angola.” “The Naval Battle of Tsushima.” “Portuguese Topographical Regulations.” “Tactical Problems.”

February, 1906.—“Morocco.” “The Initiative of the Commanders of Troops.” “The Value and Quality of Machine Guns in Action.” “Some Considerations on the Naval Battle of Tsushima.”

March and April, 1906.—Have not been received.

*Revista de Infanteria.* Lisbon: April, 1906.—“The Evolution of Infantry Tactics.” “Europeans in Oversea Lands.” “The Infantry Arm.” “Tactical Problems.” “Pan-Germanism and the Military Alliance of the Latin Powers.”

RUSSIA.—*Voïennyĭ Sbónik*. St. Petersburg : April, 1906.—Has not been received.

SPAIN.—*Memorial de Ingeniéros del Ejército*. Madrid : March, 1906.—“Some Observations on the Formulas which Determine the Depth of the Moorish Wells” (*concluded*). “A Universal Commutator.” “The Russo-Japanese War : Line of Communications of the 2nd Japanese Army Corps.”

April, 1906.—Has not been received.

*Revista Técnica de Infantería y Caballería*. Madrid : 1st April, 1906.—“General the Marquis de la Romana” (*concluded*). “The Battle of El Caney.” “The Cavalry and Musketry Instruction.” “The Officer Instructor” (*continued*). “The Machine Gun with Cavalry” (*continued*). “The Island of Tenerife” (*continued*). “The German and French Fleets.”

*Revista Científico-Militar y Biblioteca Militar*. Barcelona : April, 1906.—“The Algeiras Conference.” “Uniformity in Machine Guns.” “Lamentations.” “Some Observations on the Last War” (*continued*).

SWITZERLAND.—*Revue Militaire Suisse*. Lausanne : April, 1906.—“Some Observations on the Manœuvres of 1905.” “Reform in the Infantry Equipment and Clothing.” “Musketry Instruction in the German Army.” “Shrapnel and Shields.”

UNITED STATES.—*Journal of the United States Artillery*. Fort Monroe, Va. : January-February, 1906.—“Needs of the Coast Artillery.” “Primers and Fuses for Cannon.” “Contribution to Interior Ballistics.” “Method of Instructing Coast Artillerymen preparatory to Gunners’ Examination.” “Proposed System of Range-Finding.” “Professional Notes.” “Book Reviews.”

March-April, 1906.—Has not been received.

*Army and Navy Life*. New York : April, 1906.—“Lieut.-General J. C. Bates.” “Nation’s Monuments on Cuban Battle-fields.” “Making Wireless Experts.” “The Tale of a Ship’s Goat.” “Twixt Reveillé and Taps.” “How to Fight a Moro.” “Editorial.” “Information Operator.” “The Soldiers of Canada.” “New York’s Coast Artillery Regiment.” “The New Battle-ship ‘Connecticut.’” “The Army and Sports.” “The Profits of the Post Exchange.”

*Journal of the U.S. Cavalry Association*. Fort Leavenworth, Kansas : April, 1906.—“Report of the Cavalry Board on Bits.” “County Fair Cavalry.” “Organisation of Philippine Scouts.” “Cavalry Equipment.” “Regulations for Machine Guns.” “Army Co-operative Fire Association.” “Indirect Fire.” “The Signal Corps with Cavalry.” “Problems.” “Special Class at Fort Riley.” “Reprints and Translations.” “Military Notes.”



## NOTICES OF BOOKS.

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*Wellington's Operations in the Peninsula, 1808-1814.* By Captain LEWIS BUTLER, late King's Royal Rifle Corps. London: Fisher Unwin.

The literature on the subject of the Peninsular War has recently been very largely added to, if it cannot, perhaps, in all cases be said to have been appreciably enriched, but there can be no doubt that the increased attention now paid in Army examinations to a study of the lessons to be derived from Wellington's campaigns, has induced a number of military writers to give us something shorter, less bulky, and less detailed than Napier's matchless work. Captain Butler has produced two very carefully written volumes, and has not failed to avail himself of the descriptions, opinions, and criticisms of earlier historians, where these are necessary to illustrate his narrative or to support his contentions. Frequently, too, does the author draw comparisons between the conduct of the British Government of those days—in relation to military affairs—with that whose term of office has recently closed, and compares, too, the conduct of the operations of Peninsular and South African commanders; whether the frequent introduction of such matter into a mere history of a particular campaign is either necessary or welcome is entirely a matter of individual opinion. More interesting is the comparison, ably drawn by Captain Butler, of the attitude of the different Governments—French, British, Spanish, and Portuguese—towards the commanders of the armies in the field, and in this, as in other particulars, the author does no less than justice to Napoleon in pointing out the support he invariably extended to his not especially successful generals and to the armies which fought under them.

A good deal of new matter seems to have been introduced into these two volumes, especially in the way of "returns" or "states," some of which do not seem to have appeared before; but, indeed, Captain Butler would seem to have not only made a feature of giving whenever possible the numbers present, but has been at great pains to verify their correctness. A weak point about these volumes is in the maps, which are hardly sufficiently clear; in the two volumes there is but one map of the Peninsula, and that on a very small scale; the value of the next edition of this work would be very greatly enhanced by better, clearer, and larger maps and plans. To the military genius of Sir John Moore ample justice is done by Captain Butler, and posterity has long since recognised that the issue of the campaigns so successfully conducted by Sir Arthur Wellesley might perhaps equally safely have been left in the capable hands of Sir John Moore.

More than once in these volumes Captain Butler raises the question whether we might not with advantage have made peace with Napoleon, and especially before he embarked upon his Russian campaign, and the closing words of this important contribution to military education contain matter for an interesting study—"whether our policy of hunting Napoleon to death was that most conducive to the interests of our country; or whether statesmanship might not have found a means by which we could have gone hand in hand on the path of civilisation and progress with the most sagacious and far-seeing genius which the earth has seen, and by so doing have solved in their infancy some of those problems which, after the lapse of a century, weigh so heavily upon us."

*The Russo-Turkish War, 1877.* By Major F. MAURICE, The Sherwood Foresters. London: Swan Sonnenschein & Co.

This is the second volume of the "Special Campaign" series which is now being brought out by the above enterprising firm of publishers in order to meet the requirements of military examinations. The book does not pretend to be in any way a comprehensive history of the war waged now nearly thirty years ago between the Tartar and the Turk, but is a strategical sketch of the more decisive portion of the operations in Europe only. Major Maurice has made an exhaustive study of his subject; he marshals his facts with much ability, while he lays due emphasis upon the lessons, both of omission and of commission, that may be learnt from a war fought in a portion of Europe which is not only "still of the greatest political interest, but which bids fair to take upon itself the old title of the Low Countries as 'the cockpit of Europe.'" The volume practically divides itself into an account of the passage of the Danube, the fighting about the Shipka, and the siege of Plevna; and although it cannot be said that the rest of the campaign disclosed anything of corresponding interest or importance, still one may wish that the matter contained in the last few pages could have been the least thing expanded. Major Maurice's comments are excellent, his explanations clear and convincing, his description of the duties and limitations of a commander and of troops making a "containing" or "holding" attack is very good indeed, and the book should be of real service to the military student, for whom it is primarily intended. There are three clear large-scale maps in a pocket at the end; the map of Plevna and neighbourhood is especially good, and the letters and numerals placed on the different positions assist greatly to a proper understanding of the fighting round the little Bulgarian village, the occupation of which came so near to wrecking the whole Russian plan of campaign.

#### PRINCIPAL ADDITIONS TO LIBRARY, APRIL, 1906.

*Marine Française et Marine Étrangères.* By Captain L. ABEILLE. 8vo. 2s. 8d. (Armand Colin.) Paris, 1906.

*Tactique D'Artillerie—Le Canon à Tir Rapide dans la Bataille.* By Captain F. CULMANN. 8vo. 6s. (Henri Charles-Lavauzelle.) Paris, 1906.

*Historical Records of the King's Liverpool Regiment of Foot.* 3rd Edition. 8vo. (Presented.) Enniskillen, 1904.

*Das Angriffs-Verfahren der Japaner im Ostasiatischen Kriege, 1904-05.* By FREIHERR VON LÜTTWITZ. 8vo. 3s. (E. S. Mittler & Sohn.) Berlin, 1906.

*The Cambridge Modern History.* Vol IX.: *Napoleon.* 8vo. (University Press.) Cambridge, 1906.

*The Countries of the King's Award.* By Colonel Sir T. H. HOLDICH. 8vo. 16s. (Hursh & Blackett, Ltd.) London, 1904.

*Règlement de Manœuvre de l'Artillerie de Montagne.* 2 Parts. Official. 8vo. 2s. 8d. (Henri Charles-Lavauzelle.) Paris, 1906.

*The Burma Route Book.* Part III. : *Routes in Western Burma.* Compiled in the Intelligence Branch Q.M.G.'s Department in India. F'cap. folio. (Presented.) Calcutta, 1905.

*Les Leçons de la Guerre—Port Arthur—Tsou-Shima—Ce qu'il faut à la Marine.* By Vice-Admiral DE CUVERVILLE. Crown 8vo. 2s. 3d. (Berger-Levrault et Cie.) Paris, 1906.

*Der Russisch-Japanische Krieg.* By IMMANUEL. 8vo. (Presented.) (R. Schröder.) Berlin, 1904-6.

*Her Majesty's Army.* By W. RICHARDS. 4to. 3 vols. (H. Virtue & Co., Ltd.) London, n.d.

*Memorandum on the Age Tables and Rates of Mortality of the Indian Census of 1901.* By G. F. HARDY. Fcap. folio. (Presented.) Calcutta, 1905.

*Standing Orders for Inspectors of Army Schools, Examiners, and Teachers.* Official. Crown 8vo. 6d. (Presented.) (Harrison & Sons.) London, 1906.

*Regulations for Army Veterinary Services.* Official. Crown 8vo. 3d. (Presented.) (Harrison & Sons.) London, 1906.

*Administration, Organisation, and Equipment Made Easy.* By Major S. T. BANNING. 6th Edition. Crown 8vo. 4s. 6d. (Presented.) (Gale & Polden.) Aldershot, 1906.

*Organisation Militaire de la Confédération Suisse.* 12mo. (Presented.) n.p., 1888.

*Frontier Warfare, 1901.* 12mo. 1s. 6d. Simla, 1901.

*Periodicals: The Gentleman's Magazine Library, being a Classified Collection of the Chief Contents of the Gentleman's Magazine from 1731 to 1868.* Edited by G. L. GOMME. 8 vols. 8vo. London, 1891-96.

*Services Militaires en 1906.* Crown 8vo. (Presented.) Berne, 1906.

*Der Mechanische Zug Mittels Dampf-Strassenlokomotiven.* By ALFRIED LAGRIZ. 8vo. (Presented.) (E. S. Mittler & Sohn.) Berlin, 1906.

*The Civil War in Worcestershire, 1642-1646; and the Scotch Invasion of 1651.* By J. W. WILLIS BUND. 8vo. 4s. (Simkin, Marshall, Hamilton, Kent & Co., Ltd.) London, 1905.

*The Solution of Tactical Problems.* By Lieut.-Colonel J. LAYLAND NEEDHAM. 8vo. (Presented.) (Hugh Rees, Ltd.) London, 1906.

*The Making of Modern Egypt.* By Sir AUCKLAND COLVIN. 8vo. 18s. (Seeley & Co., Ltd.) London, 1906.

*Historical Manuscripts Commission.—Report on the Manuscripts of J. B. Fortescue, Esq., Preserved at Dropmore.* 8vo. 2s. 4d. (Wyman & Sons.) London, 1906.



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**THE BARR AND STROUD RANGEFINDER. FQ TYPE, "INFANTRY."  
1 METRE BASE.**

**FOR USE WITH INFANTRY, CAVALRY, AND MACHINE-GUNS.**

The Rangefinder is constructed largely of Aluminium. It is covered externally with brown leather, and is fitted with pads on the ends to prevent damage by rough handling. It is supplied in a strong leather case (as shown) fitted with a shoulder-strap, and can readily be carried on a man's back, either on horse or afoot.

The tripod shown in the illustration is *not* supplied with the instrument, as the Rangefinder is so constructed that it can be used with ease by an observer without a stand when kneeling, standing, sitting, or lying prone. A suitable stand, however, can be supplied at extra cost, if desired.

Approximate uncertainty of observation :—

At 400 yards	is equal to 1 yard.
" 1000 "	" " " " 5 yards.
" 3000 "	" " " " 40 "



THE GERMAN FIRST-CLASS BATTLE-SHIP "ZÄHRINGEN." 11,900 Tons; 15,000 I.H.P.; Speed, 18 Knots.

ARMOUR PROTECTION.—Complete 9-inch belt of Krupp steel, tapering to 4 inches at extremities. Main barbettes, hoods and hoists, 10 inches; Redoubt and central battery, 5·5-inch; casemates and secondary turrets, 6-inch; hoists for 5·9-inch Q.F. guns, 3-inch; conning tower, 10-inch; signal tower (aft), 4-inch; protective deck, 3-inch on slopes, 1·5-inch on flat.

ARMAMENT.—Four 9·4 inch 40-calibre guns in pairs in barbettes; eighteen 40-calibre Q.F. 5·9-inch guns, eight in battery, two in casemates on main deck, four in casemates and four in turrets on upper deck; twelve 3·4-inch Q.F. guns and 12 small machine guns, with 6 torpedo-tubes, one submerged in stern, four submerged on broadside and one above water astern.

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# THE JOURNAL

OF THE

## ROYAL UNITED SERVICE INSTITUTION

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VOL. L.

JUNE, 1906.

No. 340.

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*[Authors alone are responsible for the contents of their respective Papers.]*

### SECRETARY'S NOTES.

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1. The following officers joined the Institution during the month of May :—

Naval Instructor J. White, R.N.

Lieutenant C. E. Hunt, Indian Army.

Captain G. S. Clarke, Indian Army.

Lieut.-Colonel W. R. Ludlow, 1st V.B. Royal Warwickshire Regiment.

Major G. P. Du Plat Taylor, Grenadier Guards.

Lieutenant R. N. Grenfell, Buckinghamshire I.Y.

Commander J. D. Edwards, R.N.

Lieutenant H. J. T. Grey, R.N.R.

Surgeon-General W. Donovan, C.B., A.M.S.

Lieutenant H. H. Berners, Irish Guards.

Captain H. C. Bickford, 6th Dragoon Guards.

Captain A. Courage, 15th Hussars.

Captain A. S. Holme, R.E.

Lieutenant G. A. M. Docker, Royal Fusiliers.

Rear-Admiral F. G. Kirby.

Lieut.-Colonel C. G. W. Lowdell, late I.M.S.

Lieutenant H. C. Malet, 8th Hussars.

(No officer of the Militia joined the Institution during the month.)

2. The Reception takes place on the evening of Wednesday, 27th June. There are still some tickets available, which will be allotted in the order of application.

3. The Council have decided that after the present year all copies actually sent in for competition for Prize Essays shall become the property of the Institution absolutely, and that the copyright of all the Essays published in the JOURNAL shall remain the property of the Institution.

4. A Lecture will be delivered on Friday, 6th July, at 3 p.m., by Brigadier-General M. F. Rimington, C.B., on "The Cavalry Spirit under Napoleon." The Chair will be taken by Major-General R. S. S. Baden-Powell, C.B., the Inspector of Cavalry. As this will be the "off" day of the Inter-Regimental Polo Tournament, the Inspector-General hopes that there will be a good attendance of cavalry officers.

The Lecture which was to have been delivered by Major-General Sir A. B. Tulloch, K.C.B., on the "Argentine Republic and its Neighbours," has been postponed to the Autumn Session.

5. The following additions have been made to the Museum :—

- a. Officer's Dress Sabretasche, Royal Marine Artillery; discontinued in 1901.  
*Given by Lieut.-Colonel J. H. Bor, C.M.G. R.M.A., A.D.C.*
- b. An Oxydised Silver Vase, presented by the citizens of Victoria, British Columbia, to the officers, non-commissioned officers, and men of the Imperial Troops at Esquimalt on the occasion of their departure from Canada in May, 1906.  
*Deposited by Lieut.-Colonel English and the Officers and Men of the Garrison at Victoria, B.C.*
- c. The Imperial Ottoman Order of the Crescent, awarded to Lieut.-General Sir John Moore, K.B., for his services in Egypt in 1801.  
*Lent by Miss Carrick Moore.*
- d. Four Prints of the Battle of the Nile, dated 1799, showing various phases of the battle.  
*Given by Colonel G. S. Maxwell, 5th Battalion Rifle Brigade.*

6. A collection of Portraits of past Commissioners of the Duke of York's Royal Military School is now being formed at the School, and the following portraits are required to make the collection complete :—

General Sir Richard Green, Bart., G.C.B., 1805.

General Sir H. H. Burrard, Bart., 1809.

Major-General John Brown, 1812.

General Sir R. Darling, G.C.B., 1813.

General the Earl of Rosslyn, G.C.B., 1816.

General Sir W. Clinton, G.C.B., 1826.

Lieut.-General Sir F. Gardiner, 1831.

Lieut.-General Sir R. Jackson, K.C.B., 1836.

Right Honble. L. Sullivan, 1852.

The Institution being unable to assist in supplying portraits of the above-mentioned officers, it is hoped that members in possession of any of them will allow them to be reproduced for presentation to the School.

7. The Secretary wishes to call attention to the fact that many communications relative to change of address have recently been received unsigned, and consequently cannot be dealt with.



# MILITARY HYGIENE ON ACTIVE SERVICE.

*By Major T. H. J. C. GOODWIN, D.S.O., R.A.M.C.*

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Thursday, 18th January, 1906, at 3 p.m.

Surgeon-General A. KEOGH, C.B., M.D. (Director-General,  
Army Medical Service), in the Chair.

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WHILE fully appreciating the honour of reading a paper at this Institution, I confess that it is with feelings of hesitation that I attempt to deal effectively with a subject of such extent and importance.

The range covered by this branch of science is so great that I fear it is quite impossible for me to do more than briefly describe the origin and causation of those diseases which affect our armies on active service, and to then review shortly those measures which will, I hope, prove effectual in the future in preventing those epidemics of disease which have been such a prominent and lamentable feature of our campaigns in the past.

As to the importance of this subject:—Is this thoroughly realised? It certainly has not been so in the past, and the health of our Army, and, consequently, its fighting efficiency, has suffered terribly in consequence.

There can be no possible doubt but that the importance of this subject should be recognised, not only by medical officers like myself, but also by all branches of the Army, for there is abundant evidence to show that the future success of our Army in the field must, and will, to an enormous extent, depend upon the efficiency with which measures for the prevention of disease are carried out.

There is, I think, a general idea that the losses on active service are due to a certain number of officers and men being killed and wounded.

This impression is, to a very great extent, fallacious.

On recent campaigns, the proportion of our losses from wounds, as compared with our losses from preventible disease—I lay stress on the word “preventible”—has been very small indeed.

Take as an example, one of the most fatal diseases on active service: enteric fever.

During the recent war in South Africa there were over 41,000 cases of enteric fever.

Quite apart from the terrible loss of health and life which this disease involved, the cost to the State of invaliding and replacing these men amounted, I believe, to nearly four millions sterling, and this is taking into consideration the case of one disease alone.

As a contrast to this I may mention that the casualties sustained by General Oku's Army in Manchuria, from 6th May to 19th December, 1904, were 26,207 killed and wounded, while, during the same period, there were only 193 cases of enteric fever.

This is, as the *British Medical Journal* (4th February, 1905), observes, "a very remarkable record, affording a striking proof of the efficiency of the precautions recommended by the Japanese Medical Department, and accepted by the commanders in the field for the protection of the men."

During the whole of the recent war, Japan lost 57,000 from wounds, and 15,000 from sickness, the deaths from sickness being less than one-fourth the total loss, a proportion without parallel in the records of war.

In the South African War there were, in round numbers, 400,000 admissions to hospital for disease, and 18,000 for wounds, so that, for every man admitted to hospital wounded, there were 22 admissions for sickness.

Laying aside all sentimental considerations as to loss of health and life, and looking at the matter from a purely practical standpoint—I presume that the main object in warfare is to win battles, and to win them as speedily as possible. Other things being equal, I presume that the side, which has the greatest number of effective fighting men, will win the day.

When we think of the numbers I have just quoted, and realise that the fighting value of 400,000 men was lost to the British Army at one time or other during the recent war, we may appreciate the effect which disease has on the probable outcome of a struggle between two nations.

I imagine that nothing can be more disheartening for an officer commanding any unit in the field than to see his men falling out in increasing numbers every day, and to see men, who should be in the fighting line, drifting away to the field hospitals, where they are lost to him and to the Army as far as their fighting value is concerned.

When such an officer realises that practically all this loss from sickness might have been prevented, the bitter fact that the force under his command has been decimated, and rendered practically useless from disease, will be rendered more bitter still.

Now with whom does the responsibility for the prevention of disease lie?

I think that there is a general idea that it lies, solely and entirely, with the medical officers.

While fully recognising that it is the duty of medical officers to make recommendations, and to do all in their power to ensure that every possible measure for the prevention of disease is carried out, I would point out that, unless regimental and staff officers are in sympathy with such recommendations, and unless both they, and also the non-commissioned officers and men under them, understand the reason of the preventive measures, recognise their importance, and endeavour to efficiently and intelligently carry them out, it is extremely improbable that a successful result will be obtained.

When discussing this matter with combatant officers, I have often been told: "Well, after all, my duty is to fight, and to teach my men how to do so; questions regarding their health, and the prevention of disease, are your business."

I think that this is entirely a wrong standpoint from which to look at the matter; fighting is most certainly the primary duty of the combatant officer, but I maintain that it is also a most important part of his duty to maintain the physical efficiency, and, concurrently,

the fighting capability, of his men, and he cannot possibly do this unless he has a clear knowledge of the principles of disease causation and prevention, and applies that knowledge to the conservancy of his camp, the supply of drinking water, and many other details. He cannot always have a medical officer to fall back upon for advice; occasions are constantly arising when he is on detached duty, probably with a small body of men, and he will then have to act on his own knowledge and judgment, and on him will depend entirely the question as to whether, in a few weeks' time, he will still have under him an efficient body of fighting men, or whether these will have dwindled to a fraction of their original strength, many of them having been admitted to hospital with enteric fever or dysentery, while of the remainder the number of ineffectives is daily increasing.

We cannot have a clear conception as to what measures will be effectual in the prevention of disease, unless we have a sound and definite knowledge as to the manner in which that disease is caused.

Of late years our knowledge as to the origin and causation of disease has become immensely advanced, many of the old vague ideas have been swept away, and accurate scientific facts have taken their place.

I presume that everyone here has heard of bacteria. These organisms are the real and actual factors in the causation of disease, and it has been definitely and clearly proved by scientists, that certain specific bacteria cause certain specific diseases, and that these diseases can arise from no other cause whatever than by the entry, into the human body, of the bacteria which cause them.

Time will not permit me to describe any of the numerous experiments by which this fact has been proved, and I must consequently ask you to accept my statements on trust, and to believe me when I assure you that there is abundant indisputable evidence to prove them.

Any ideas, as to the possibility of disease arising of itself, should be dismissed, once and for ever, from our minds. The days have now passed by when men, even well-educated men, spoke in a vague manner, and possibly with a doubting smile, of the "germ theory of disease." The causation of disease by germs, or, in other words, by bacteria, is no vague theory, it is a definite and well proved fact, admitting of no doubt or question whatever.

Anyone who takes an interest in this matter, and cares to look further into it, cannot do better than read the "Life of Pasteur," a book of the greatest interest, not only to men of my profession, but almost equally so to anyone taking an interest in the matter.

I shall not enter into a detailed description of bacteria, but I should like to mention a few of their more important characteristics.

Firstly, as to their powers of multiplication. These organisms multiply with immense rapidity, the process taking place by fission.

Under favourable conditions of warmth and moisture, such, for instance, as the bacterium finds on entering the human body, it will, within one hour, divide into two parts, at the end of a second hour each of these parts will have again divided, and the process of subdivision continues, until, at the end of twenty-four hours, calculation shows that the original single bacterium will have multiplied to a number exceeding sixteen millions.

Now we will suppose that a single bacillus, or rod-shaped organism, of enteric fever or dysentery has entered the body of a human being, it



is easy to understand how, at the end of a few days, his whole system will be teeming with countless millions of bacilli, which are hourly being given off in his excreta, to pollute the soil, and hence, in all probability, to enter food or water, and so gain access to, and infect with the disease, fresh persons.

It is in this manner that an epidemic of disease commences, and, unless successfully taken in hand, it decimates a body of troops with fearful rapidity.

As to the conditions of bacterial existence, they like warmth and moisture, consequently the interior of the human body is extremely favourable for their growth and multiplication.

They are very resistant to cold, and may be frozen for long periods without being killed, but they are quickly destroyed by excessive heat, as by being boiled, or by the action of certain chemicals, known as antiseptics.

The mode of entry of bacteria into the human body is usually by one of three channels:—

1. Inspiration; *i.e.*, the bacteria are inspired with the air into the lungs, where they lodge, and set up the disease, as in pneumonia.
2. Ingestion; they are swallowed, and conveyed to the intestinal tract, as in enteric fever, dysentery, and cholera. This is by far the most important channel of entry of those diseases which affect an Army in the field.
3. Penetration of the skin, as in plague, etc.

A few words as to the manner in which the bacteria themselves cause the disease.

As a general rule, toxins, or poisons, are manufactured by the bacteria during the processes of growth and multiplication, these toxins act on the tissues of the body, and cause the various symptoms of the disease, headache, fever, etc.

It does not invariably follow that every person, whose system has been invaded by the bacteria, contracts the disease immediately. In certain cases they may remain dormant in the body until the system becomes lowered, as by fatigue, hunger, diarrhoea, etc., and they may then wake into activity, and, overcoming the natural resisting power of the body, set up the disease.

So much for the causation of the disease; we will now consider its prevention.

In speaking of the prevention of disease I am afraid that it is impossible for me to avoid going over a certain amount of ground which has already been trodden by others.

I must apologise if I speak of facts and rules which are already well known to all of you, but it is difficult for me to altogether exclude many rules and principles, which are possibly almost universally known and accepted.

In dealing with disease prevention on active service I shall speak of the two following maladies conjointly, *viz.*:—Enteric fever and dysentery.

These two diseases are together responsible for by far the greater proportion of our losses on active service, and it is convenient to discuss them together, as the bacteria causing them enter our bodies in the same manner, *viz.*, by being swallowed, and, consequently, preventive measures are the same for both of them.

I think we may consider the means of prevention under two heads:—

1. Measures which prevent the entry of the bacteria into our bodies.
2. Measures which maintain the health, and, consequently the resistant power of the individual.

To deal with the first group:—

The main channels through which the bacteria gain access to our bodies are:—

1. Water.
2. Food.
3. Flies.
4. Dust.
5. Soil pollution.

We will now consider these channels separately:—

1. *Water.*

All existing water supplies must be protected from contamination.

I do not propose to enter into all the rules regarding the subject of water protection, they have been laid down many times, and are to be found in every book on military hygiene.

I should like, however, to point out that all these measures must be carried out zealously and intelligently; if performed in a perfunctory and half-hearted manner the result will be valueless. For instance, it is not sufficient to publish an order to the effect that a certain supply of water is unfit for drinking purposes—such steps should be taken as will render the use of the water an impossibility.

If the water were originally pure and uncontaminated, the measures laid down would, if carefully carried out, effectually prevent the introduction of disease from this source, but, unfortunately, one is obliged to regard most water supplies, certainly those in India, as already, to a greater or less extent, contaminated.

Anyone who has been in India, and has noticed the ordinary habits of the native, will readily understand that this is the case. This being so, while every effort must be made to prevent further contamination, the question of the purification of the water must be considered.

The principal means by which water may be purified are:—

- a. Heat (boiling).
- b. Filtration.
- c. Chemicals.

We will now consider these in rotation:—

a. *Boiling.*

This is an excellent measure, for, as I have already mentioned, the bacteria of disease are quickly killed by boiling, and water, if boiled for one minute or longer, is effectually sterilised, *i.e.*, any bacteria which it contains are destroyed, and it may be subsequently drunk with impunity. There are, however, various difficulties to be overcome. One of these is the question of fuel, which it may not be possible to obtain in sufficient quantity, or to transport; a second difficulty is the necessity for cooling the water before it can be drunk; and a third is due to the fact that, if the water is boiled for more than a few minutes, it loses its dissolved gases and becomes unpalatable.

As to the means by which these difficulties may be overcome:—

The first, as to fuel, may, to a considerable extent, be surmounted by using a stove on the *primus* principle, which consumes oil; by means of such a stove about 20 to 25 gallons of water can be brought to the boiling point with an expenditure of about eight ounces of oil.

Unfortunately, the *primus* stove is extremely liable to get out of order, it requires to be carefully screened from the wind, and must also be absolutely protected from dust and grit.

Captain Scott, in his very interesting account of the voyage of the "Discovery," remarks especially on this point, and lays stress on the fact that this stove is only efficient if worked by a man who thoroughly understands it, otherwise it speedily gets out of order and consequently becomes useless.

The second difficulty, as to cooling the water, may be overcome in various ways; one method is that employed in the Forbes-Waterhouse steriliser, which is used in the United States Army. In this apparatus, by means of a heat exchange mechanism, the water, after having been boiled, parts with a considerable amount of its heat to the incoming water which has not yet been heated.

It is claimed for this steriliser that, in one pattern, the outgoing sterile water is only  $4\frac{1}{2}$  degrees higher in temperature than it was on entering the apparatus.

This steriliser is spoken of as having worked well in the United States Army, but I believe that it is still more or less on its trial, and I think that the perfect apparatus remains to be found. I believe that, in the more recent pattern, in which weight has been, as far as possible, minimised, the water is not cooled to nearly the same extent as in the earlier, and heavier, design.

The third difficulty, as to taste, may be overcome by boiling the water for such a short period that, although the bacteria are killed, yet the greater proportion of the dissolved gases remain in the water, which is, consequently, palatable.

The Forbes-Waterhouse steriliser is a delicate apparatus, and, unless transported and worked by men who thoroughly understand its mechanism, it is very liable to get out of order and become useless; it is evident, therefore, that it should be supervised and managed by trained men, and not handed over to anyone except a person who is thoroughly conversant with it.

The water must be clarified from mud and coarser particles before being passed through the steriliser, for not only will water containing sediment or mud be unpleasant to drink, but, owing to the mechanical irritation caused by the particles which it contains, it will be extremely likely to produce diarrhœa.

The water of many of the rivers in Ladakh and Kashmir and on the North-West Frontier contains large quantities of mica in suspension, and, unless this is removed before the water is drunk, diarrhœa of an extremely severe nature will almost certainly result.

Water-boiling on a large scale may be carried out in standing camps.

In Ladysmith sterilisation was effected by Colonel Sim's apparatus, in which the water was first boiled, the sediment precipitated by the addition of alum, and the water was then cooled in a separate cylinder before issue.



This apparatus delivered about 3,000 gallons per day, and I believe that the results from its use were eminently satisfactory.

We now pass to the second method, that of filtration. There are several fairly satisfactory forms of filter at present in use, of which the Berkefeld is perhaps the best known.

The following points must be observed with regard to all of them:—

1. The water must be clarified from coarser particles, sand, mud, etc., before being passed through the filter, otherwise the apparatus will speedily become choked and useless.

This primary filtration is usually effected by means of a barrel or basket, containing charcoal or sand and gravel, or by means of bags of canvas or blanket, or some such simple method.

2. The filter must be regularly, thoroughly, and skilfully cleansed, otherwise it will speedily become worse than useless. The Berkefeld filter should be thoroughly cleansed at least every third day.
3. The filter must be looked after, and worked, by skilled and careful men; even in their hands the apparatus is liable to get out of order, owing to the rough usage of active service, and this is much more likely to happen if the filter is handed over to men who do not thoroughly understand it, and realise the care necessary to ensure its efficiency.

It is manifest that filtration is purely a mechanical process, and cannot have any eliminating effect on substances which may be in solution, so that it is evident that chemical poisons, dissolved in the water, will not be excluded by filtration.

Consequently, no matter by what process sterilisation is carried out, the source of the water, well, spring, or stream, must be kept as clean, and free from decaying animal and vegetable matter, as possible.

There is a new pattern water cart, which is at present on trial, in which the water passes through a filter in the interior of the cart, and is consequently purified before being drawn off. I believe that this cart promises well, but I cannot speak of it from personal experience.

A minor, but an extremely important point, and one which can be seen to by the company officers only, is the water in the men's bottles.

It should be absolutely ensured that these water bottles are only filled with such water as has been previously sterilised by boiling, or other method.

The men's bottles should be thoroughly cleansed with boiling water at regular periods.

Men should be instructed and trained to husband the supply in their bottles. This is entirely a matter of habit and training; if a man commences to drink within the first few miles of a march, he will certainly continue to do so at frequent intervals, and will very soon finish the supply in his bottle, and will then, if he can, drink from any water which he may happen to come across.

This is a point on which the discipline in the Japanese Army is extremely strict, and I believe that it is most unusual for the Japanese soldier to drink from any unauthorised water supply.

Sir Ian Hamilton, in his recently published book, draws attention to this fact, and states that the Japanese soldier neglects no rule of sanitation, and is most scrupulously particular in carrying out every measure which is conducive to the maintenance of his health, and consequently, of his efficiency as a fighting man.

In reviewing these two different methods of water sterilisation it is impossible to say definitely that either method is the better.

In some instances boiling can be effectually carried out, and will prove satisfactory, while, under different circumstances, filtration will prove to be the most efficient means of sterilisation. As a general rule I think that, while at the base and on the lines of communication, sterilisation can best be carried out by boiling; at the front the water can most readily be purified by filtration.

As regards the comparative utility of the different appliances for sterilisation I think that the perfect apparatus is still to be found, but at the same time, I think that several of those in use at present will prove quite efficient, if worked by men who thoroughly understand their mechanism.

To my mind this a most important point, for it is impossible that a good result can be expected if an apparatus, such, for instance, as a Forbes-Waterhouse steriliser, or a complicated filter, be handed over to men who have an insufficient knowledge of the mechanism of such articles, and possibly the crudest ideas as to the methods of sanitary science.

As regards the third method of water purification, namely, that by chemicals, I shall say but little. It is manifest that there are many difficulties in the application of such methods on active service.

At the same time I think that there is scope for the employment of such a method as Vaillard's in sterilising the water for small detached bodies of men, such as picquets and scouting parties.

In this method the water is purified by the action of free iodine, which is subsequently neutralised by the addition of hyposulphite of soda.

The materials are very portable, and the process of sterilisation is extremely simple, and, I believe, efficacious.

## 2. *Food.*

Turning now to the question of food:—

A considerable portion of food on active service is issued in tins.

These tins should be very carefully inspected on issue to the men, and any which are bulged or indented, or which emit a hollow sound when struck, showing that putrefactive gases are forming in the interior, should be rejected.

Tins may be perfectly sound when inspected, and issued in bulk, at the base, but may become injured, and their contents poisonous, before issue to the men some days or weeks later.

Tins of food should be carefully packed in straw, etc., in order to avoid injury, and should, if possible, be stored in a cool place.

The quality of the cooking, and variety in the food, are matters which necessitate attention.

It should be borne in mind that dyspepsia and diarrhœa, which may easily be induced by bad cooking, or by a monotonous diet, and which, of themselves, are comparatively minor evils, predispose to the much graver diseases of enteric fever and dysentery.

I now come to the third channel of infection:—

### 3. *Flies.*

These insects play an extremely important part in the conveyance of the bacteria of disease.

This had been repeatedly proved; for instance, flies have been allowed to settle on the discharges from patients suffering from enteric fever, and the insects have then been permitted to walk on plates of gelatine, the result being that colonies of enteric bacilli have developed in their tracks.

There is no proof that the enteric bacilli pass through the digestive tract of the fly, but there is clear evidence that they adhere to the legs, wings, and bodies of these insects. Another experiment is that of placing two jars of sterilised milk side by side, leaving the mouth of one open, and so exposed to the incursions of flies, and covering the other with coarse muslin.

At the end of twenty-four hours the milk in the exposed jar is found to be swarming with bacteria, the milk in the protected jar remaining sterile.

There has been abundant evidence of late years to prove the large part which flies play in the spread of disease.

Dr. Nuttall, of Cambridge University, states that he considers the evidence as to the rôle of flies in the diffusion of cholera as "absolutely convincing."

The commission appointed to investigate the cause of the epidemic of enteric fever in the Volunteer camps in the United States, during the Spanish-American War of 1898, stated that the spread of the fever was, in their opinion, effected by flies.

During this campaign the epidemic of enteric fever gradually decreased with the approach of the cold weather, when the flies became disabled, and unable to carry the germs of infection.

The same fact has been noted for some years in South Africa.

When the prevailing wind is from one direction, a fly-borne infection will extend in the same direction as the wind, as the insects, on rising in the air, are carried along by the breeze.

As regards the life history of the common fly. The female insect lays eggs, to the number of about one hundred and twenty, in decaying organic matter, especially in the crevices of horse dung; the larva, or maggot, is hatched out from the egg in twenty-four hours' time; after a period of from five to seven days this larva becomes a pupa or chrysalis, and from this pupa, after a further period of five to seven days, the fully-developed fly emerges.

Consequently, the mature fly is developed from the egg in about a fortnight.

The adult insect feeds on any dead animal matter, and, if permitted, will divide its attentions impartially between the latrines and the men's food supplies.

As to the measures which should be adopted in order to check the spread of the disease by flies—these practically resolve themselves into the protection of food from their incursions, the destruction of



their breeding places by the removal of all horse litter and refuse, and the careful supervision of the latrines, for it is in the latrines that the insects come into contact with the bacteria which cause disease.

As regards the destruction of refuse, Major Caldwell, in his book on disease prevention, describes an improvised destructor which I should think would answer excellently in the absence of special apparatus.

It simply consists of two short trenches intersecting each other at right angles, with a chimney at the point of intersection. A fire is lighted at the base of the chimney, and the rubbish is thrown down from the top; by this means the refuse is more completely destroyed than it is when burned in the open.

Latrines in standing camps should, when possible, be thoroughly and regularly disinfected by quick-lime and water, or other means, and dry earth with scoops must be provided in every latrine, temporary or permanent, and this earth must be freely used by the men.

#### 4. *Dust.*

With the question of dust I shall deal briefly, it is an undoubted factor in the dissemination of disease.

Experiments by Firth and Horrocks prove that enteric bacilli can live in dust or dry earth for over three weeks, so that one can readily understand how, if latrines are left uncovered, a spell of dry weather, followed by a storm, will spread the germs of disease all over the camp.

#### 5. *Soil Pollution.*

I now pass on to the question of soil pollution; I have left it to the last, but it is, probably, the most important factor of all in the spread of disease.

New camps are as a rule, healthy; after they have been occupied by a succession of troops they become very much the reverse.

Camps are often left in an extremely dirty condition when troops vacate them, this condition being especially noticeable in the vicinity of latrines; when the next troops arrive on such a camping ground they are bound to suffer in consequence.

The ideal method would be for no camping ground to be occupied by successive bodies of troops, each unit, as it arrived, being located on a fresh site, but this is manifestly impracticable in many instances, and consequently every care must be taken to prevent soil pollution.

Before I go further I should like to bring two facts, regarding enteric fever, to your notice.

The first is that the bacilli of this disease are, in many cases, voided in a person's excreta for some time before he shows any manifestation of the disease itself, consequently, a man may appear to be quite healthy while his excreta are swarming with the bacilli.

The second point is that the enteric bacilli are voided in large numbers in the urine.

From these two facts we can understand how important it is that men, whether healthy or sick, should, under no circumstances, be permitted to go elsewhere than to the latrines or urinals for the purposes of nature.

Whenever troops are halted, even for half a day, latrine trenches must be dug, and the men must, on no account, be permitted to use any other place.

This is a point which has been very frequently neglected in the

past, and men, when halted for short periods, have not been prevented from strolling, for the purposes of nature, into the jungle or rough ground in the vicinity of the camp. This custom is fraught with disastrous consequences, for the result is that the ground in, and around, the camp, becomes contaminated, and any troops which may subsequently be located there will inevitably suffer.

The question of the supervision and care of latrines and urinals is an extremely important one, as soil pollution is directly dependant on the condition in which these are kept.

The supervision of latrines is an unpleasant duty, and is, consequently, extremely likely to be "shelved," everyone relegating the duty to someone else, the result in the end being that the supervision of the latrines is neglected, their condition speedily becomes the reverse of sanitary, and an outbreak of enteric fever or dysentery follows.

If sanitary precautions regarding latrines, urinals, and the disposal of refuse, are scrupulously carried out, the worst evil of all, soil pollution, will be, to a very great extent, prevented, and, the greater the degree of this prevention, the better will the health of the troops be, and the less the incidence of enteric fever and dysentery.

I have already stated that I consider this question of the disposal of excreta, and consequent presence or absence of soil pollution, to be the most important factor of all in the prevention of disease.

Bearing in mind what I have already stated with regard to disease causation, we can see how all these other channels of entry, water, food, flies, etc., depend upon the presence or absence of soil pollution.

The *fons et origo mali*, the bacillus, is present in the excreta of the affected person, if this bacillus is permitted to gain access to the water supply, or to be carried by flies, dust, etc., to food, an outbreak of disease will follow, and, consequently, all these channels depend, in the first instance, on the disposal of excreta.

I think that I have now spoken at sufficient length regarding these diseases, and shall pass on to briefly consider the question of malaria.

I have decided to say a few words regarding this group of diseases on account of the great extent to which our Armies on the frontier of India are affected by it.

Although malaria does not cause the severe epidemics of disease which arise from enteric and dysentery, still, it incapacitates a very large number of men, and renders them useless to the fighting force for the time being.

Malaria was formerly ascribed to various vague causes, "miasma," chill, etc.

It was discovered, many years ago, that the causative factor of the disease was a small animal organism, which, having obtained access to the blood of human beings, fed upon, and destroyed, the red blood corpuscles.

The means by which this parasite entered our bodies remained for many years unknown, and our present knowledge on the subject is very largely due to the researches of Major Ross, in the Indian Medical Service.

Ross discovered that the organism was transmitted to man and animals through the agency of a particular species of mosquito, called the *Anopheles*.

The mosquito most commonly met with, in India and other countries, belongs to the genus *Culex*, and the insects belonging to this class, although they suck blood freely, do not convey the organism of malaria.

The distinctive naked-eye appearances of the *Anopheles* and *Culex* mosquitoes are mainly as follows:—

In the *Anopheles*, the thorax, or anterior portion of the body, presents three longitudinal stripes, its wings are spotted, the head, thorax, and abdomen are in a more or less straight line. When the insect is in a resting position, its attitude approaches the vertical, the body of the insect forming an angle with the surface on which it rests.

The *Anopheles* mosquito does not migrate far from its breeding ground, and it only feeds between sunset and sunrise.

In the *Culex*, the head and thorax together form an angle with the abdomen, so that the insect presents a somewhat "hump-backed" appearance, and its resting attitude approaches the horizontal, so that the body of the insect lies more or less parallel with the surface on which it rests.

This variety feeds throughout the day and night.

There are many other scientific distinctions between the two species, into which I shall not enter.

The female mosquito lays her eggs in water, these eggs are hatched, on the second or third day, into larvæ; these are little wriggling large-headed creatures, which we may see by the hundred in any pool of water in India.

The larvæ become pupæ, and from these pupæ the perfect insects emerge.

The process of development, from egg to the perfect insect, occupies about a month.

Each female mosquito commences to lay eggs when about a week old, she lays several hundreds at a time, and continues to lay them in batches throughout the summer, so that one pair of mosquitoes produces many millions of progeny in a season.

The female *Anopheles* usually selects, as her breeding place, small collections of water in the vicinity of houses, irrigation channels in gardens, stagnant pools, etc.

The problem as to the means of destruction of these mosquitoes, and their breeding places, by drainage, and other means, has attracted much attention of recent years, and excellent results have been attained in some places.

On active service the following are the main points to be observed with regard to the prevention of malaria:—

1. See that all measures recommended as to the use of mosquito curtains, etc., are, whenever possible, carried out.
2. Avoid camping in the immediate vicinity of water, particularly of stagnant pools or sluggish streams.
3. The vicinity of villages, the inhabitants of which are known to be fever-stricken, should be carefully avoided.
4. Adopt every measure for maintaining the general health of the men.

I now pass to the second group of measures for the prevention of disease, namely, those which serve to maintain the health, and, consequently, to increase the power of the individual for resisting the inroads of bacteria.



I shall deal very cursorily with matters under this heading. Most of the measures for maintaining the general health are known to all regimental officers, who, in my experience, spare no efforts to ensure that the men under them are well looked after in the way of clothing, food, etc.

I shall just mention a few of the more important necessities.

Firstly, overcrowding must be, as far as possible, avoided; of course, the exigencies of active service are such that it is sometimes impossible to avoid massing a large number of men on a limited area of ground, but, whenever means admit, ample space should be provided, for there is no doubt that overcrowding is invariably followed by disease.

As to clothing, it should, whenever possible, be ensured that, after a long march, the men change into a dry shirt before lying down.

There is one point with regard to clothing which, in my opinion, is of the greatest importance, and that is the cholera belt.

I am quite certain, and I think that the majority of medical officers will agree with me, that a warm dry flannel belt around the abdomen is of the utmost service in helping to ward off chills, and consequent attacks of diarrhoea and other maladies, which, as I have already pointed out, predispose to more serious diseases.

Such a belt should invariably be worn at night time.

Men should be instructed to report sick without delay if they have any symptoms of diarrhoea. If this rule were invariably carried out, many attacks might be cut short and prevented from becoming serious.

As to marching, men should be marched in close formation as little as possible.

The reasons for this are that, when in close formation, men are breathing more or less foul air, which is not only thick with dust, but is also to a great extent, laden with the products of respiration.

As there is less circulation of air the men get much more heated and prone to suffer from heat stroke.

With regard to halts—prolonged halts are objectionable, frequent short halts are much more advisable in every way.

If marched for several miles, and then given a long rest, the muscles become stiff, and, when the march is resumed, the men are feeling far more languid and fatigued than if halted for shorter periods at more frequent intervals.

I think a good average to allow is about fifteen minutes at the end of the first two miles, and after that to halt for ten minutes every hour.

Food should only be sparingly partaken of while on the march, the principal meal being eaten after arrival in camp.

The advisability, or the reverse, of the use of alcohol on active service has frequently been debated.

The consensus of opinion is undoubtedly against the use of alcohol unless under exceptional circumstances.

Useful as it is at times, as, for instance, after a long and tiring march, when the men are exhausted, it is probably, if given as a routine measure, productive of nothing but harm.

There is no doubt that men improve considerably in physical condition during periods of enforced abstinence.

The practice of serving out tots of rum, as a routine measure, on cold nights, is certainly harmful, the liquor induces a feeling of

warmth at the time, as the blood vessels on the surface of the body become dilated and flushed, but this simply means that so much reserve heat is given off from the body, which is consequently left in a less fit condition to combat the cold.

And now I think that I have given a very brief outline of some of those measures for disease prevention which should be carried out on every campaign.

Our experience in the past has been, as regards epidemics of preventible disease, an unhappy one.

What can be done in order to effect an improved condition of affairs in the future?

Perhaps this question is one which hardly comes within my province. The control and regulation of matters concerning the broader lines of Army sanitation and the subjects bearing on it, lie in abler hands than mine; but I may perhaps be permitted to give my opinions, and, even if they are not accepted or agreed with, they will probably elicit other views, and lead to a discussion which may be of service to others, and most certainly will be so to myself.

Firstly, I do *not* think that epidemics of disease on active service can be entirely prevented by the adoption of any one sanitary measure, such, for instance, as water-boiling.

In saying this, I hope that I may not be misunderstood; nothing is further from my thoughts than a desire to belittle in any way the necessity for the purification of drinking water by boiling or any other efficient method. As I have already stated, this measure is of extreme importance; but I do not think that it will of itself prove a panacea in the prevention of disease.

I think that we must, while neglecting no details, approach the problem on broader lines than this.

To my mind there are two principal measures which are needed with regard to the sanitation of our Army on active service, and these two measures, if organised and perfected, would, I think, entirely remedy the great evil which has existed in the past.

The first measure is sanitary organisation. I think that a sanitary corps of officers and men should be formed, who would be specially trained in all the methods of sanitation and disease-prevention. On such a corps would devolve the duty of seeing that the Army was kept up to date in all sanitary requirements.

With the officers would rest, subject of course to the military exigencies of the moment, decisions as to the selection of sites for camps, installation of water supplies, and many other important matters.

Sterilisers, filters, destructors, and other sanitary appliances should be under the supervision of the members of this corps, and it could thus be ensured that these appliances were worked by skilled men only, and such as were conversant with their mechanism and requirements.

I think that the formation and efficient training of such a body would be of the utmost service in the prevention of epidemics and in lessening the incidence of disease on a campaign.

Now, would the formation of such a corps fulfil all requirements, and succeed in attaining the desired end?

No, I do not think that it would; and I now come to the second point, and that is, the necessity for the further education in sanitary principles of regimental officers and men.

This is, to my mind, an equally pressing necessity.

I do not of course mean for a moment that it is necessary for regimental officers and men to become experts in sanitation, but I do mean that they should understand the principles of the subject: the manner in which disease arises, and the means by which it can be prevented.

Sanitary reform cannot, in my opinion, be effected entirely by the formation of a sanitary corps, or by improved methods of water purification. It must also be carried out by the officers and men of every unit.

I am convinced, in my own mind, that regimental officers and men are as a rule extremely deficient in knowledge of the causation and prevention of disease on active service.

Here again I hope I may not be misunderstood. I do not wish in any way to try to impute blame to, or to accuse of culpable ignorance, the officers or men of any branch of our Army; lack of knowledge on this subject is not their fault; it is the inevitable consequence of the conditions under which our Army exists in this country.

Under peace conditions, regiments live under the most favourable circumstances as far as sanitation is concerned.

All sanitary measures are carried out for them; when in barracks, sanitation proceeds automatically, and probably hardly comes under their notice at all, and even when in camp a supply of pure water is probably laid on, and rightly so, and all refuse and excreta are removed daily by contractors.

Let us consider what happens when these same regiments suddenly proceed on active service. Conditions then assume a vastly different aspect; everything has to be arranged, and all details carried out, by the officers and men themselves, and, inefficiently equipped with knowledge as they are, the performance of sanitary necessities in the units will be inefficiently carried out, with the inevitable result that outbreaks of disease will follow, and the physical efficiency of the unit, and consequently its fighting capacity, will steadily and rapidly deteriorate.

The formation of a sanitary corps will not remedy this; sanitation should be, and in many instances must be, carried out by the units themselves.

Even if the rules published for guidance are followed out in a rule of thumb manner, the methods will probably break down from the neglect, through lack of knowledge, of some simple measure, which, though sufficiently evident to anyone who has a certain amount of education in the causation and prevention of diseases, might not suggest itself to one who was lacking in knowledge on the subject.

For instance, a junior officer or even a non-commissioned officer finds himself in command of a detached body of men in a place where he has no one to fall back upon for advice. In such a case he should most certainly be fully competent to himself arrange for the protection and supply of water, the care of food, and above all, for the avoidance of soil pollution.

If lacking in knowledge on these points it will most probably happen that details are neglected, and that this small body of men will not only themselves become ineffective through sickness, but that they will also be the means of causing an outbreak of disease in the troops which subsequently occupy their camping ground.



I think that it is fully as important that officers and men should be competent to carry out such simple measures for disease prevention as it is that they should be able to take cover when necessary during an engagement and to shoot straight.

As I said before, many more men are rendered ineffective by disease than by the bullets of the enemy.

If all regimental officers and men had a definite knowledge as to how disease was caused, they would I think apply the rules for its prevention in a common-sense and practical manner.

If one soldier realised that the fact of his comrade using other places than the latrines for the purposes of nature would most probably lead to the contraction of enteric fever or dysentery by himself, he would look on the matter in a different light to that which he does at present.

There are many links in the chain of disease prevention, and the weakness of any one of these links will lead to failure.

No matter how perfect the organisation of a sanitary corps may be, epidemics of disease will still occur unless precautions are carried out in the very first link of all, *i.e.*, by the individual, and this, to my mind, can only be effected by the instruction of officers and men in the elementary rules of the origin and prevention of disease.

It is I think by the combination of these two measures—one, as it were, at the head, and the other at the foot, of Army sanitation—that good results will in the future be effected.

I fear that, in the limited time at my disposal, I have been obliged to touch but briefly on many important points, which were worthy of more lengthy consideration; but I hope that even this short address may have been of some service in bringing to your notice a matter which to my mind—and, I think, to the minds of all Royal Army Medical Corps officers—is of the most vital importance.

Putting aside altogether my personal views and beliefs in the matter, surely there is unlimited clear and indisputable evidence to show how enormously the success of our Army on active service is dependent on its freedom from disease.

When we remember that these diseases are preventible, and that the measures which prove effectual in their prevention are well known, surely it behoves every one of us, in whatever branch of the Service we may be, to unite in recognising the value of these measures, and to spare no effort in seeing that they are carried out.

I hope I carry conviction when I state positively that Army sanitation is no idle fad, no theoretical idea; it is based on proved and indisputable facts, the elements of which everyone in the Army should be thoroughly acquainted with, and it is a subject which will most assuredly force itself on our notice even more emphatically in the future than it has done in the past.

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Lieut.-Colonel A. M. DAVIES, R.A.M.C. :—I have no words of criticism at all to make on Major Goodwin's excellent paper, because I thoroughly agree with every word of it. I feel that it is extremely comprehensive, and that it is exceedingly sound. I would like, however, with your permission, Sir, to make one or two observations on two points, more in amplification of what he has said and by way of personal illustration. First of all, with regard to the co-operation of combatant officers, I think that that is one of the most important points of progress that we can desire—to get the hearty co-operation of combatant officers, because without it I am afraid we shall not advance very far. If we have that hearty co-operation, then we can do everything. The army medical officer by himself has not at present sufficient power and sufficient means of taking action to carry out the measures that he knows to be absolutely necessary, but if we had the co-operation of the combatant officers, these necessary measures would be carried out. In order to get that hearty co-operation, the combatant officer must understand what is required, and therefore he must be instructed. It is absolutely necessary that he should know the reason for the things which have to be done, as Major Goodwin has already stated. In one of the Blue Books with regard to the South African War, which give such very shocking and horrible reading to anybody who is interested in Army sanitation, it is related that somewhere near Pretoria a civilian medical officer saw a party of men coming to draw water in order to fill their water-bottles. There was a dirty little stream running through the field, and the party of men, with their commanding officer, came up and filled their bottles at this stream. At a very short distance further on, a pipe supply of water had been laid on at very great expense, the water being of good quality. The civilian doctor went to the officer commanding the party and said: "Do not you see that your men are drawing this filthy, poisonous water; why do you let them draw it?" and the officer replied: "What can you do? The men *will* do it; you cannot stop them." You can imagine the observations that should be made to that officer as well as I can. When I was in India making enquiries into enteric fever at different stations—I am speaking about the dry earth system of excreta disposal, of which you all know—I came to a certain place. I think I have a fairly large acquaintance with the dry earth system in latrines, but nowhere, as far as my experience goes, have I found it well carried out except in one regiment—only once in all the places I have been to. In the particular station to which I am referring it was very badly carried out indeed. I was going round the lines with the commanding officer, and having been to one latrine after another with him, and found the most disgusting state of things, I said: "Sir, your men are not using



the dry earth; why do not you make them do it?" He said: "What can you do? They will *not* do it; you cannot make them." Whether in one case the officer says you cannot *stop* them, or in the other case the officer says you cannot *make* them; whether it is in one case drinking dirty water when there is clean water ready to drink if they will only take the trouble to get it, or in the other case not using the dry earth, surely that is a matter of discipline, in which there ought to be no difficulty, in a body of men living under authority, as military men are, in getting the orders and regulations carried out. I believe that if combatant officers were imbued with a knowledge of the reasons of these things—that it is not a mere fad, but that there is a sound scientific basis for all the regulations which are put forward—I believe they would see them carried out. At present they are not imbued with that idea, and they do not fully understand it, and I am afraid they do not, as a rule, see that the regulations are carried out. What is required is for the commanding officer to take the matter seriously. I am convinced there is a very widespread, although not universal, interest in sanitation amongst combatant officers. I am happy to say that I have come across many instances where combatant officers are as keen as anybody could possibly be. In one instance of the faulty application of the dry earth system I went to the general and asked him if he would be so condescending as to come to a latrine with me, which he did. He was horrified; he was disgusted; he was enraged, and very angry with everybody, including myself. He did not let the sun go down on his wrath; he published a general order that evening, and ordered that every latrine was to be inspected by a combatant officer every day till further orders. I need hardly say that the latrines in that station—I will not mention it by name (it was in Asia)—were in a very much better condition afterwards than they were before. Then it is obvious that we must prepare in peace for what we shall have to go through in war, and that is really what Major Goodwin has alluded to. With regard to the question of water supply in peace time, the soldier in barracks, and, generally speaking, when camping out, is provided with a very pure supply of water, and all he has to do is to take it out of the taps. In time of war, however, quite the reverse is the case. All the preparations have to be made by himself for supplying himself with water. There is no water laid on for him. These conditions ought to be rehearsed and prepared for in time of peace. Another point which I think is most important is the question of water discipline. The men ought not to be allowed to take water when they want it. Whenever they feel thirsty they ought not to drink. On the march in India the men empty their water-bottles very early in the morning, and go thirsty for many hours together; therefore they will be apt to drink any kind of dirty water they come in contact with. Water discipline ought to be taught, so that the men should only drink in smaller quantities at stated intervals. That, I hold, can only be brought about by the personal example of their officers, and officers who are present will understand the extreme importance of that point. Then with regard to the question of the disposal of excreta in barracks in peace time, as the lecturer has said, the soldiers have nothing whatever to do with it. It is entirely automatic; he has himself nothing to do, but in time of war he has to do everything for himself. He has to dig trenches, or put on dry earth, or whatever it is. The other day I came across an instance where a regiment, which had been in barracks where water latrines were erected, and where they had nothing whatever to do, were moved to another barracks where the dry earth system was in



force, where a man ought to add the dry earth himself every time he uses the latrine. These men, as I say, had been accustomed to doing nothing, and when they went from one barracks to another they continued doing nothing. As you can imagine, the condition of the latrines was very soon appalling, and I have no doubt whatever that a considerable outbreak of enteric fever that occurred resulted from this neglect. It was very difficult indeed to get the men to carry it out, and the commanding officer had to take strong measures, which he did by having a patrol to go round and make prisoners of anybody they could catch not putting on the dry earth. That is a case in which it ought to have been somebody's business to give the men a warning beforehand on that particular point. Then the only other point I wish to refer to is that preparation in time of peace can only effectually be carried out by having manœuvres on a practical scale, where the men will have to do the things which we know they will have to do for themselves in time of war. By this means, and by this means only, can they be properly trained how to deal with active service conditions.

The Rev. W. B. DOWDING, Chaplain to the Forces, London :—I will not detain you by making any lengthened remarks, because it is not in my province to do so, when there are so many able officers present who are capable of expressing valuable opinions on the subject. I have risen simply for the purpose of asking whether the lecturer, or anybody else, will do this for us: Let us know what a man can best do in the matter of eating and drinking in order to avoid these attacks of disease to which reference has been made. I quite acknowledge that the sanitary rules laid down by the lecturer are very wise; but I equally understand the statement of those who say that you cannot make a man do certain things, and you cannot prevent him doing certain others. I think all of us have come across that sort of man. I therefore think it would be very helpful if the lecturer would state, for the information of the men and officers alike, how a man can best defend himself against attacks of disease—in view of its inevitable occasion by the exigencies of war—how he can best keep himself in health on active service. For instance, *what should he eat?* Cannot the lecturer suggest to the Commissariat Department something better than the everlasting bully beef and biscuits? And cannot the medical authorities suggest some special sorts of food for different climates? And *when* during the day a man should drink, and *what* he should drink? I also think it would be desirable if the question of the use of alcoholic stimulants on active service were gone into. That is a question which, to my mind, people seem to shirk, partly because it is a question on which there are differences of opinion, and partly because it is not a particularly popular one—on one side at any rate. While I have been on the Council of Army Temperance work—which means for the last twenty years—I have made it my special object to do all I can to promote temperance; but I cannot help feeling some misgivings with reference to the relation of total abstinence to enteric fever. I speak under correction, but I believe there is no doubt there was an intention to show after the late war that those who were total abstainers were more free from enteric than those who were not; but that the enquiry resulted in the opposite conclusion, and nothing more was heard of it. What the real truth is I am not in a position to say. I have known instances rather bearing out that statement. In a foreign station where I was quartered (it was not an unhealthy station), in one year three men died of enteric, and because all those three men happened

to be total abstainers the other men took stringent measures to ensure that they should not die of total abstinence. It was a curious fact that the three leading total abstainers were the only three men who died from enteric. Such a question as this might reasonably be asked: Would a regular supply of rum during those terrible weeks in Bloemfontein, during which I was one of the on-lookers, and helpless, in a way, have prevented that awful epidemic? I have expressed my own opinions on this subject in private discussion, but I would not like to mention them before so learned an assembly as this. Then I think it would also be of great interest if the lecturer could tell us whether some simple remedy could not be recommended for the troops to carry about in their pockets? When I was a small boy it was an old-fashioned remedy to carry about a piece of rhubarb root to chew occasionally when you did not feel up to the mark. It never got any the worse for wear in the pocket. Could not a simple remedy of that sort be issued to all the troops, to be used on the first signs of being "out of sorts," and thus avoid more serious illness?

Major H. P. G. ELKINGTON, R.A.M.C.:—I should like to say a few words about the question of sterilisers, because Major Goodwin mentioned in the course of his paper the Forbes-Waterhouse apparatus. During the manœuvres last year we had two patterns of sterilisers on trial during the whole period, one made by the Lawrence Company and one by Dr. Mallock. We found that in actual work on the march they were too cumbersome to use for everyday work, but were perfectly suitable when we got into camp. The chief drawback was that they only delivered thirty gallons an hour, and it therefore took four hours to fill the water cart. That puts sterilisers out of court altogether in their present form, as far as their use on the actual line of march is concerned. In standing camps no doubt they would be very useful. I heard a few days ago from the Lawrence Company that, from their experience at the manœuvres, they had modified their original steriliser, and had considerably reduced its size. The one they sent us was about 4 feet high, and when we wanted to deliver the water into the cart, it made a huge mountain, as we had to stand it on a packing case. Another drawback to the use of the steriliser was the absolute necessity of having a mechanic trained by the company who understood every detail in connection with the working of the machine. The lamps in both the Mallock and the Lawrence apparatus worked perfectly well, and gave no trouble, even if the wind was blowing hard; but there was always a difficulty in dealing with muddy water. We had to clarify the water before putting it into the steriliser. One of the main reasons for that is, that if not done, you will clog up the pipes before very long, and the whole apparatus would be put out of working order. With regard to the question of filters, Messrs. Slack & Brownlow have a very good field service filter, but their greatest improvement is the field service water cart. We had two patterns on the manœuvres, one with the filtering apparatus fixed behind the cart. This was the first one shown to the Army authorities; but we found after the first day's hard work across the Long Valley it leaked from the joints, and the water cart was useless. The second pattern, with the filter sunk in the body of the cart, gave most satisfactory results. I handed it over to an officer commanding a double company, and, having explained the working of the apparatus to him and the four men that he told off to look after the cart, it was found that they looked after it thoroughly, and took the greatest interest in the working of the machine. The cart was filled by the men by a hose pipe fitted to the machine



through its own pumps, and also in the ordinary way by the Royal Engineers' hose. We used all kinds of water; we did not mind what we used, as we took it for granted that, as the machine was sent down to us for trial on the march, Slack & Brownlow's apparatus was capable of giving us sterilised water. The water was used by the officers' mess, in addition to the company's mess, and we never had any complaint whatever. I examined the candles regularly to see that everything was going on all right, and also the asbestos covering; and as I found, in spite of the dirty water we used on the line of march, that the inner layers of the asbestos did not become even soiled, I did not sterilise the asbestos or the candles during the nine days we were working the apparatus. To show you how well the cart worked, I need only say that the water obtained from the filters was seven gallons in one and a half minutes when we commenced to use it, and at the end of nine days' consecutive work with all sorts of water, it was only reduced to seven gallons in two minutes. Certain modifications are to be made in the apparatus, and I was sent only two days ago a photograph of the improvements which were found necessary. With regard to the subject of special men being told off for the carts, I think that would be absolutely unnecessary, and would be multiplying the number of what you might call Staff-employed men. There would be no difficulty whatever in training any man in the regiment to look after the cart, to sterilise the candles and clean the asbestos, provided you induce the regimental officer in charge of the company to take an interest in the subject of giving his men good water. I do not think you will have any difficulty in doing that if you go the right way about it; we had none on the manoeuvres with the different companies to which the special appliances were told off. They all took the greatest interest in the matter, and gave us the utmost support. The men who should be trained for the purpose are undoubtedly the cooks, because on arrival in camp the water-cart is almost invariably placed adjacent to the kitchen, and with a kettle attached to the water-cart there would be no difficulty in the cook sterilising the candles and cleaning the asbestos. With regard to the question of water discipline, it was proved on the manoeuvres that that can be obtained if you go to the officers and ask them to carry it out. I had the fullest support from the general officer commanding and the other regimental officers, and in those cases in which we tried it we had no difficulty whatever. In the morning all the water bottles were filled with pure water, the cart started off full, and it was filled up again at intervals as required when the men had a halt; but the men were not allowed to get any other water except that which was drawn from the cart itself. That proves, I think, that if the medical officer will get the combatant officers, and more especially the non-commissioned officers, to interest themselves in this subject they will back you up and do everything that you require. With regard to the question Major Goodwin raised of digging latrines in peace time when the men have a halt for half an hour or longer, it certainly seems the right thing to do. I suggested it at Aldershot, because we found that on large field days the men fall out and practically foul the ground all round, and on going over the ground the following day you could see perfectly well where the regiments had halted. We raised this question and tried to see if it was feasible to do anything, but found it would be impracticable, from a regimental point of view, to dig trenches. The best we could arrange for was that parties of men on these large field days should be told off, when a halt was called, and by means of a flag or something of that sort should indicate where the men could fall out



for Nature's purposes, so as to limit, as far as possible, the fouling of the ground. Looking at it from a practical point of view, on marches and field days that is as much as we can hope for.

Colonel E. A. ALTHAM, C.B., C.M.G.:—I have very little to say on this interesting paper. I simply rise as a combatant officer, in order to express my entire sympathy with the subject on which the lecturer has touched and has so ably placed before us this afternoon. I think when the question of sterilising water on active service was first brought forward some few years ago after the South African War, there was a certain fear on the part of some of us who had more or less to do with staff duties that the limitations which active service necessarily places on the preservation of life had been a little bit over-looked. The conditions of war are so entirely in contrast with those of peace on this point that we cannot expect to carry out the same system. In peace, the very first duty of the community is to preserve life; in war, the whole object of operations is to take life—to take the life of the enemies' soldiers. But in doing so, in beating down the enemy by destroying his soldiers, we have to use up more or less the lives of our own soldiers. Every general who fails to realise this truth, who shirks from sacrificing the lives of his soldiers when necessity arises, is an incompetent commander. On the other hand, every general who fails to economise the lives of his soldiers whenever the necessities of the war permit, is equally criminal and equally culpable. Then, in war, we seem to get a balance of two conditions; they are both opposite to each other, and yet they have to be borne in mind by the responsible military authorities. There are occasions on which the lives of one's own men become a matter of indifference compared to that of defeating the enemy. There are other occasions on which there is no immediate opportunity of destroying the enemy, and, therefore, it becomes of paramount importance to preserve the lives of the men whom you will use at some future date for your military purposes. I only troubled you with these points because they seemed to me to bring out more or less the general principles which have a certain practical knowledge bearing on what we can do on service, and what we cannot do on service; and it is having regard to that practical bearing that I would congratulate the lecturer very much on the moderation and restraint with which he has approached the subject. I think throughout the lecture, and throughout the remarks which other speakers have addressed to the meeting, the military necessities of service have been constantly and continually borne in mind. On service, I take it, the most difficult problem is that of transport. It was the question of the extra transport, the extra costs, the extra vehicles, and the increased number of animals which would be entailed which frightened many of us when this question of sterilisation was first mooted, and personally, it was a great satisfaction to me to hear from the last speaker that a cart has been lately tried down at Aldershot, which, I understand, will suffice for the supply of water for 500 men. If that is so, it facilitates the solution of the problem to an enormous degree, because it means that for an Army Corps some seventy extra vehicles at the outside would suffice to preserve the whole Army Corps from this great danger of enteric fever. Subject to those limitations, I am quite certain there is no combatant officer in the whole Army who will not do the utmost in his power to preserve the lives of those for whom he is responsible. That it should be possible, for instance, for those things to have occurred, which have been mentioned this afternoon, such as an officer being indifferent as to whether his men

drew water from a dirty or a clean source, or indifferent to the most simple forms of sanitation, is a lamentable thing; but I cannot but hope that, if not at the present moment, at any rate in the very near future, these things will not happen in the British Army.

Colonel G. H. SIM, C.B., R.E., Commanding Dépôt, Chatham:—The question of the individual sanitation of every man in the Army or in a force is a point of equal importance with the question of whether the authorities can provide him with good water. On active service we have to consider many cases where very small parties of men are detached from their main bodies, and very likely remain for some time in one place. It is impossible that water-carts which are suitable for a battalion could be of any service to small outposts of a company that are, say, two miles away on the top of a hill. We must, I think, not only get the knowledge which the lecturer says is necessary for every non-commissioned officer and man, but we must get the practice. The only way in which we can get that practice is at manœuvres; and not only at manœuvres but on every winter march that a battalion takes for exercise, sanitary rules should be observed. For instance, when there is a five minutes' halt, why should men be allowed to foul their neighbours' ground? Every man has a spade in the form of his bayonet. The great thing to do is to prevent the pollution of the soil with a view to preventing the water supply being contaminated, and to prevent the pollution of food by flies. Every man should be made to understand *in peace time* where he can go safely for Nature's uses without the fear of polluting the water supply of the country. Why should not every man dig his own little hole in the ground and cover it up? That would prevent flies getting at the excreta, and if that is done the risk of pollution of food and water is minimised. I think it is a personal matter altogether. We read about latrine trenches in the regulations; but I have never seen the idea propounded in them that when a man has used the trench, he should cover up the excreta *himself*. I have seen that plan carried into effect in South Africa with great effect, when it was insisted that every man who went even to urinate should cover up his urine with a little dry earth. There was nothing to attract flies, and consequently there were few flies. In many block-houses that arrangement was carried out, with the result that there was almost an absence of flies, and the men were perfectly healthy. It is *personal* sanitation which should be practised by every single man in the Army, although prepared and supervised arrangements are equally necessary for camps and large bodies of troops. If at manœuvres the officers had to go out and find water for their men, there would be very little chance, after some practice, of their using bad water. They would understand how to get good water somehow or another, or to treat it if not good. There is one question I should like to ask the lecturer about the sterilisation of water. He talked about the boiling. I was under the impression that it was not necessary to boil the water, but that if the water was brought up to a temperature of 190°, and kept at that temperature for a little while, all the bacteria of enteric were destroyed. That is a rather important point, because the lecturer mentioned that if you boil water you make it unpalatable. If you only bring water up to something under boiling temperature, it remains palatable. In standing camps, where thermometers can easily be obtained, it is very much better that people should know that, and should not make the water unpalatable by excessive boiling. Where there is no thermometer it is safer to boil



it, and run the risk of it being unpalatable. With regard to the measures that should be taken for sterilising water, I cannot help thinking that the principle which should be adopted is that whenever large bodies are together and sterilisers and filters are feasible, they should be used, but that immediately you get small parties away from the main bodies, there should be some means of sterilising the water by chemical action, and that every man should carry some sterilising stuff in his pocket, so that if the water is doubtful he could put in a small quantity, which would make that water at any rate safe. If it makes the water a little unpalatable, I am not sure that that is not rather a good thing, because we have heard a good deal about men drinking an excessive quantity of water, and if the water is not very palatable, perhaps that evil might be remedied. I think one great reason for excessive drinking on service is the "bully beef." "Bully beef" is essentially thirst-producing food; there can be no doubt about that, and there is no doubt that men get into the habit of drinking after a short course of it. I think something might be invented a little less thirst-producing than "bully beef" in a hot country. There is just one more point I should like to refer to in connection with sanitation, namely, that it would be a good thing if the King's Regulations or some other regulations which are applicable to the whole Army gave a few paragraphs of what a soldier is *not* to do in the way of sanitation, and that if he is ever found doing one of those things he should be liable to punishment just as much as he is if he commits any other military offence. There are no personal sanitary regulations that I know of at all, and the consequence is that every officer has to make laws for himself and do the best he can with his men. If a few regulations were drawn up, and a man could be actually punished for doing things that he is told not to do, it would be a great assistance to the combatant officers. There is one little point with regard to malaria I should like to mention. I have found that paraffin oil is of the greatest efficacy in the prevention of the bites of mosquitos. Mosquito curtains are all very well, but if a mosquito gets inside—and he often does get inside—they are not much good. Paraffin oil is used, I believe, largely for the prevention of mosquito breeding in ponds. When I was in India I never had a mosquito curtain at all, although I was very much subject to being bitten by them. By putting just a little paraffin oil over the exposed parts of the skin I found that the mosquitos would never come near me. I often told officers about it, and I have practised it myself, not only in India, but also in other hot countries and in Italy, where mosquitos abound, and I have always found it extremely efficacious. The mosquito will not bite if you have paraffin oil on the skin, and for active service that is rather a useful thing to know. On active service I always carry a little bottle of paraffin oil in my wallet.

Major T. McCulloch, M.B., R.A.M.C. :—The paper we have listened to is full of points of the greatest interest and importance to everyone who has the best interests of the soldier on field service at heart. In the past it has been too much the case that sanitary matters have been regarded as chiefly the concern of the medical officer, and that little or no responsibility attached to officers of units in regard to the preservation of the health of their men. The medical officer's part is, I think, that of educating officers, non-commissioned officers, and men in regard to sanitary principles, and in the practical application of sanitary methods; but if the best results are to be obtained, the regimental officer must also do his part. He must consider it his duty to pay careful attention himself



to sanitary details, and he also must use his personal influence in regard to the sanitary training of his men, gaining their ready obedience to the observance of sanitary rules, and impressing upon them that the efficiency of the corps in the field is intimately related to the maintenance of a sound state of health of the men composing it. Disease hampers an army by the loss of numbers, by causing it to lose mobility, by taking up transport which could be more advantageously employed; and disease adds enormously to the cost of war, as the men lost or disabled have to be regularly replaced. Apart, therefore, from the humanitarian point of view, the prevention of disease is of the utmost importance in relation to the success of troops in the field, and the general who is able to maintain sound health conditions in his army is also likely to win most battles. The question of the prevention of disease is consequently of the utmost importance to every practical soldier. Sanitation, in its broadest sense, may be summed up in one word—cleanliness. All sanitary measures are based on the necessity for systematic removal of refuse matter and excreta. We aim at preventing the accumulation of such matters—conditions which must occur wherever men are gathered together, and particularly when the aggregation takes place within limited areas, such as camps on field service. A camping ground to begin with may be clean, and in such circumstances the health of the men will not suffer from sanitary carelessness until some time after occupation. In the very best looked-after camps some organic pollution of the soil is inevitable, but if sanitary matters are neglected, unhealthy conditions are rapidly established, and such diseases as dysentery and enteric fever exact their toll. A good sanitary state in a camp depends on the exercise of care by the individuals living in it. The men should, therefore, be trained in sanitary methods in time of peace just as they are trained in drill, in shooting, and in field work. A man becomes a trained soldier, as far as the use of his weapon is concerned, by constant practice and by going over the same ground again and again until he becomes proficient. In the same way he will only gain a satisfactory knowledge of sanitary principles by receiving instruction which is repeated again and again, and instruction in field sanitation should form part of his annual field training.

Captain J. BOOTH CLARKSON (late 3rd Bn. Royal Fusiliers):—Confirming the recommendations of Major Goodwin, to the effect that it would be a very useful thing to have a sanitary corps which should have charge of the sanitary apparatus, I may mention that I was told by the United States Medical Officer, only about three weeks ago, that not very long ago they had to issue an order against the use of the Forbes-Waterhouse apparatus in the latrines, not because it did not work quite satisfactorily—it did when it was properly managed—but owing to the fact that they found the men did not understand it, and therefore it was more of a danger than a safeguard; but after a certain number of men were trained to use it properly, another Army Order was issued to the effect that it should be used. With regard to the question of training officers and men in regard to sanitary matters, I think that, nearly up to the present time, one of the great reasons that we have not been able to get them to take an interest in it has been owing to the fact that we have not had very good results to show; but now that we can point out what Major Goodwin has mentioned, that in the South African War we had 41,000 cases of enteric, whereas the Japanese army in their recent campaign only had 193, we are likely to make more progress. In addition to that, we can point out the results

in Havannah, where, under the orders of General Leonard Wood—himself at one time the medical officer to Major ———, in charge of the United States Medical Department—yellow fever has been stamped out. Yellow fever was tackled on the lines indicated by the Commission presided over by Major Read, *i.e.*, the mosquito being exterminated, with the result that a couple of years ago there was not a case of yellow fever in Havannah, for the first time in a hundred and fifty years. What would happen if an army that was in the sanitary condition of our army had met a Japanese army in their sanitary condition? There could be no doubt about the result. Although military reorganisation has not gone as far as we should like to see it go, it has progressed considerably, especially since the days of the pocket-book observation that a doctor's advice was very good—when it was asked for.

Major T. H. A. C. GOODWIN, D.S.O., R.A.M.C., in reply, said :—With regard to Colonel Davies' remarks, I have nothing to say, because he was good enough to agree with me in everything. As to Mr. Dowding's suggestions respecting the general health of the men, I do not think that any instructions as to the food men should eat, or regarding their clothing, etc., which I presume are the measures referred to, will be of any avail unless the details as to sanitation are understood and carried out by them. To my mind, that is the most important point of all. There is no reason why "bully beef" or any other food, if uncontaminated, should cause severe diseases; it may produce diarrhœa or dyspepsia, but it cannot cause enteric fever. Enteric fever can only be contracted through defects in sanitation. With regard to the question of alcohol, I have mentioned it in my paper, but I did not refer to it when giving my lecture. I do not know what Mr. Dowding's views are on the subject, but I have put mine in the paper. I am strongly against the use of alcohol, unless under exceptional circumstances. I think the habitual use of alcohol is a very great mistake. Certainly it is useful at times; for instance, after long marches when the men are fatigued and exhausted, but I think that as a rule it is productive of more harm than good. I think the habitual issue of alcohol in cold weather is certainly harmful; it induces a feeling of warmth because the surface of the body is flushed. The person feels warmer, but that simply means that so much reserve heat is lost by evaporation, and the body is then less fit to combat the cold. I think those are the principal points regarding alcohol which I mentioned in the paper. As regards simple remedies which the soldier can carry, I do not think that such a measure would be very practicable. My own experience of the gentleman cadet at Woolwich is that one has to be very careful as to what simple remedies one gives him. If a doctor gives him something for external use, say for application to his knee, unless the cadet is very carefully instructed, he will probably try its effect on somebody else's throat, or internally on himself, and I think it is very much the same with the soldier. He does not understand the possible danger of the drugs with which he is dealing. Even if such a measure were practicable, I am not acquainted with any simple remedy which will either prevent or cure enteric fever or dysentery. With regard to Major Elkington's remarks, I am very glad indeed to hear that my idea was correct as to the new pattern water-cart having been successful. I heard that it promised very well, but I did not know that the results had been so very satisfactory as appears to be the case. Major Elkington also said that specially trained men were not necessary to ensure the efficient working of the cart, but he mentioned afterwards



that one man was trained in the subject. That, I think, is a proof of my contention that one man, at all events, should be skilled in the matter, and that the apparatus should not be handed over to the ordinary man, who was not trained as to its mechanism. Colonel Altham spoke of the very great difficulty of transport. I fully appreciate and understand the force of his remarks, and it was principally for that very reason that I thought that boiling water would in future be the more effective method at the base and on the lines of communication. At the front I think filtration is the better method, because it can be more easily carried out, while involving a much smaller amount of transport. Colonel Sim spoke of boiling the water and as to the alternative method of raising it to a temperature of only 190° instead of to the actual boiling point. He asked if that was effectual. It is so, but I did not mention it because I thought it rather complicated matters. Such a method is all very well at the base and where big installations can be erected and thermometers used, but I think as a general rule that the efficacy of sterilisation by heat is open to doubt unless the water is boiled. If it is boiled for a minute, or even two minutes, the water does not lose all its dissolved gases. With regard to the question of purification by chemicals, owing to pressure of time I omitted to touch on this point, although I have mentioned it in the paper. There are various means which can be adopted for the purification of water by chemicals. I do not think that, as a rule, they are very practicable on active service. There are many difficulties in the way; but, at the same time, I do think that there is scope, and ample scope, for their employment in the case of small bodies of men, such as picquets and scouting parties. The best method I have seen is that of Vaillard, in which the water is purified by the action of free iodine, which is subsequently neutralised. The materials for carrying out the process are very easily carried on the person, and I think the method would be found useful for small bodies of men at the front. Mention was made of the employment of paraffin oil as a specific against the bites of mosquitos. I tried paraffin oil myself in India. It is all very well when you can apply it frequently to the exposed parts, such as the hands and face. It then certainly does keep off the mosquitos, but the oil has to be constantly renewed; and when you remember the fact that the *Anopheles* mosquito feeds throughout the night, I think you will see that paraffin oil is not very effectual. When one goes to sleep the paraffin soon evaporates, and the *Anopheles* mosquitos will then bite as freely as before. I found that in India in the case of the ordinary mosquito (the *Culix*), paraffin oil would keep them off for an hour, and then they got as bad as ever. I was very glad to hear one remark, namely, that the non-commissioned officers were so interested in the care of sterilisers and other apparatus. I think that is most important and encouraging, because the non-commissioned officer has a very valuable influence. He gets hold of the men under him and sets an example, and can effect very good results indeed at very little cost to himself or anyone else.

The CHAIRMAN (Surgeon-General A. Keogh, C.B.) :—I think we have had an exceedingly interesting discussion on this paper, and that I have been left very little to say by way of summing up what has been mentioned. It is a source of some regret, to me at all events, to find that the majority of those who are here are medical officers, and that the combatant branch of the Army is not very well represented; but one is consoled by the reflection that this paper will be read throughout the



Service, and we hope it will have the effect which it undoubtedly deserves. I think the paper is an exceedingly valuable one. Major Goodwin has been very moderate in the statements that he has made. He has touched upon most important matters which should occupy the attention of the combatant officer. Of course, as he said, he does not expect the combatant officer to be an expert in sanitation; he only requires him to appreciate the fact that sanitation has now, and has had for the last twenty years, a scientific basis. Perhaps I may be allowed to express my own opinion on one or two points that were mentioned. Personally, in the strict sense of the term, I do not believe in a sanitary corps, because it would be a mistake to relieve units wholly of their sanitary responsibility, and if we had a branch of the Army dealing with nothing but executive sanitation, in all probability sanitation would very soon pass out of the domain of the battalion. I hold very strongly that a battalion must safeguard itself. I also hold that it is possible within the *personnel* of a battalion to adopt all the measures—provided the officers and men are educated as to the necessity for these measures—which are necessary for the sanitary salvation of the battalion. But if we come to consider the conditions which prevail at the base and on the lines of communication, then I do not think the principle that the sanitary salvation of a battalion depends upon itself will help us in the least, because, as a matter of fact, on lines of communication and at the base we have no permanent battalions. Sanitation must there be preserved by a permanent *personnel*. If Major Goodwin means by a sanitary corps bodies of men of the Royal Army Medical Corps, who are trained, educated, and used for nothing else (because I always hold sanitation is a subject which requires constant and unremitting attention), if these men are used for nothing else on lines of communication and base, then one can understand what he means by a sanitary corps. I hold that if we were able to translate into practice these views the Army would enormously benefit. Of course, Colonel Altham was quite right. There is no doubt whatever about it that, after all, soldiers go to war to fight and win battles, and in a humanitarian sense they do not care in the least about sick and wounded and all that sort of thing; why should they? That is our business; but we hold that this is not a humanitarian question at all. This is a case of the fighting and the winning of battles. For the moment, let us say, we do not care about sick and wounded; we still have a very important function in war, and that is the preservation of the army from disease. If, as Colonel Altham says, we are going to inundate an army with more transport, more *personnel*, and so on, it becomes a question whether the game is really worth the candle. Personally, I think that is a matter which the combatant officer must decide. We have the greatest sympathy with the commander in the field. He is suddenly called upon to receive, in addition to the enormous establishment given to him for the care of the sick and wounded, another establishment for the prevention of disease. In time it is not difficult to imagine that the transport for the prevention of disease and for the cure of the sick and wounded would almost equal the army for fighting purposes. No, I hold that if it be true that sanitary science can prevent disease in war, the combatant officer is entitled to say then: "If these measures are going to be so successful as you tell us they will be, you should reduce the numbers of your hospitals, the large *personnel* which you threw into the field, and show us that practical results in military operations are likely to follow these sanitary proceedings." I think he is perfectly right there. When you come to consider that if we go to war we

should have to make arrangements for 10 per cent. of the force finding itself in hospital in the first few months of the campaign; that means with an army of 140,000 men, that you require a medical corps 10,000 strong. I think it ought to be possible, if there is anything in the sanitary question, to reduce the 10,000 people that we send out to look after the sick and wounded (which, after all, is of no interest to the combatant officer—I speak from the point of view of the combatant officer, of course), and that undoubtedly the demand to reduce that large establishment is very well founded. That, I take it, was the meaning of Colonel Altham's remark, and it is a very sound and sensible remark, too. I cannot criticise at the present time the many other interesting questions that have been raised in connection with the matter. In stating my own view as to the formation of a sanitary corps, I feel there that, in the main, I am in unison entirely with Major Goodwin. The paper, as I have said, is of very great value, and one hopes that through the medium of this great Institution it will find its way throughout the Service, that it will prove to be a means of educating the Army in this great and important question, and that perhaps it will enable us medical officers to push forward the great cause that we have at heart. Before I close I should like to ask you to pass a hearty vote of thanks to Major Goodwin for his most interesting and excellent paper.

# THE USE OF THE MOTOR CAR IN WARFARE,

*By HUGH H. PAYNTER,*  
*late R.N., Captain Motor Volunteer Corps.*

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Monday, 20th November, 1905, at 3 p.m:

Major-General A. H. PAGET, C.V.O., C.B., Commanding 1st Division  
Aldershot Army Corps, in the Chair.

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I RECENTLY saw a picture in an American paper which was headed: "If Nero had only known." It depicted a Roman arena in which, in the place of wild beasts, motor cars were employed. These were provided with projecting spikes, and the unfortunate victims were run down and destroyed by this means, as indeed might have been done in those times, "if Nero had only known"; and the thought occurred to me: "What would have happened if Caesar had only known?" and what a different account we should have read in that excellent work which we have all of us studied, at any rate in our younger days, which commences with the information that "All Gaul is divided into three parts," if that great general had had at his disposal motors in the numerous campaigns which he conducted against the greater portion of the then known world.

In addressing you on the subject of "Motor Cars in War," I propose to confine my remarks to comparatively light motors, and do not propose dealing with those vehicles which are suitable for heavy draught purposes. And here I am labouring to a certain extent at a disadvantage, inasmuch as, although in our recent wars a great deal of use has been made of self-propelled vehicles in connection with transport work, and a great deal of experience gained, no nation has yet employed light cars to any appreciable extent in actual warfare.

A great deal of interest has, however, been awakened within the past two years on the subject, and there is no doubt that in any future wars motor cars will be employed to a very large extent.

It will therefore be evident that I can only tell you very little as to what motors have done in actual warfare.

All I can do is to give you some account of the uses to which they have been put in recent manœuvres, and discuss, with the aid of the experience thus gained in times of peace, how far they are likely to be practically serviceable on the field of battle. I propose also



to point out some of the purposes for which motor cars will probably be employed, and to consider what is likely to be the best type of car for military purposes.

A very few words will suffice with regard to what has actually been done with motor cars in war. As far as I am aware there were two small steam cars used in the field in South Africa: one of these by General French, and the other by an officer in the Royal Engineers. Both did good work, and the latter was provided with a trailer carrying a search-light, the engine of the car being used to drive a dynamo which provided the current when the car was at rest. I have also seen it stated that General Linievitch has been using a motor in the Far East; but, with these exceptions, I do not know of any instance in which light motors have been employed in actual warfare. In peace times, however, and especially in manœuvres, matters have been very different, many cars having been employed in the operations carried out in England during the past two years, and the daily use of them for military purposes is greatly on the increase.

Now, it is interesting to note that whilst the heavy motor traction has been handled by the Regular Army, the greater part of the light car work has been done by Volunteers. It will therefore not be out of place to refer to the history and work done by the Motor Volunteer Corps. In June, 1903, the Motor Volunteer Corps was formed by permission of the authorities and by the exertions of Colonel Mayhew. It was unique in being the first of its kind in the world, although the example has now been followed to some extent by several Continental nations. Germany, Italy, and Austria have each started a Motor Volunteer Corps. The former nation has at present about 40 cars, and they are specially interesting in being the only Volunteers in the German Army.

The idea was that there were a large number of gentlemen in England who owned motor cars and who were sufficiently patriotic to be willing to place them at the disposal of their country in time of war for military purposes; and that in order that the best results should be attained, it was advisable that a corps should be properly organised to be used for manœuvres, etc., in time of peace, and to be available in time of war for any purposes for which it might be found suitable.

A regiment was accordingly formed under the name of the Motor Volunteer Corps. A certain amount is paid to each member when on duty, and a certain minimum amount of duty is required from every member of the corps in the course of each year. I need not exactly detail the terms, but I think I may say that whilst the officers and members give their services readily, the country has secured a very good bargain, as it has at its disposal a first-class fleet of motors, with competent drivers on terms far less than those charged for the hire of cars from ordinary private sources.

The Motor Volunteers have now taken part in large numbers in the manœuvres since 1903; but in addition to this work, the cars have been, and are to-day, in constant regular work.

I will give you some figures, which will, I think, be of interest to you with regard to the work done during the year ending 31st October, 1904.

During this year the total distance travelled by cars on duty was 82,406 miles, and by motor cycles 25,152 miles, giving a total of 107,558 miles travelled on military duties by the corps, being an average of 293 miles per day.

These duties consisted of the manœuvres, during which a distance of 34,816 miles was travelled on duty, and, in addition to this there were:—

32 Staff rides.

35 inspections.

27 confidential tours.

7 tactical examinations.

7 Royal visits and inspections.

In addition to other incidental duties.

I have already mentioned that the corps was first formed in June, 1903, but although work started from that date, it is perhaps in the manœuvres which were held that year that the officers and members may be considered as having made their *début* as assistants in the Army. This is also the first instance in which motor cars have been employed on anything like a large scale in military operations.

The manœuvres took place in Wiltshire, the headquarters being on the hill above Marlborough, on the borders of Savernake forest, whilst the motor cars of the corps were quartered for the most part in the town itself, although some cars and motor cycles were attached to the different forces and moved with them.

A total of 35 motor cars and 19 motor cycles were employed. The cars were of all kinds, ranging in power from 70 to  $4\frac{1}{2}$ -H.P., and included many very fine motors.

The duties were numerous and varied.

As to the cycles, these were used exclusively for carrying messages and despatches, some of the motor cyclists being always on duty night and day at the Headquarters Camp, ready to be despatched at a moment's notice, and they were often sent out in pairs, so that if by any evil chance one of them met with a mishap the other might be able to carry out the duty. To a certain extent the cars were also used to despatch work, and I well remember on one occasion, when, owing to all the cycles being employed, it was necessary to send cars to take their place, spending a whole night on this work.

For the most part, however, the duty of the motor cars was to carry Lord Roberts and his Staff, the umpires and the foreign military attachés to the various points where their duty required their presence.

The whole undertaking was experimental. It had never been done before. The roads were bad, being considerably cut up by the transport, and driving was by no means easy, owing to the constant passing of large bodies of troops, to whom, I fear, the cars were rather a nuisance; but although many prophesied failure, the opposite was the case.

The foreign attachés were enabled to traverse distances and to witness the manœuvres in a complete manner, which would have been impossible by any other means; and, for the Regular Staff, the operations assumed quite a different complexion to that of previous years.

The umpires were enabled to carry out their duties with less fatigue and in a more efficient manner than had hitherto been possible, and Lord Roberts and his Staff made the fullest use of the cars with very satisfactory results.

Instead of having to ride a long distance in the morning to the scene of action, horses were sent on to await them at the point



selected; motors conveyed the Staff there in a very short space of time, thus enabling them to start at a much later hour. An exchange was sometimes made to the horses, the cars being sent to await their passengers at another point. On other occasions the Staff remained in the cars all day, and in either case, at the end of the day, a return home was made in the motors, the camp being thus reached at a comparatively early hour, when the orders, etc., for the following day were prepared and despatched to the different officers concerned in good time.

Lord Roberts, at the conclusion of the manœuvres, at his inspection of the corps, said, in the course of his remarks:—

“I wish to tell you of the great assistance you have afforded throughout the manœuvres; in fact it would have been quite impossible to have carried them out without your assistance. Everything has been delivered with punctuality and speed. I have not heard of a single failure.”

Now I do not pretend that all this work was carried out without some difficulties and misadventures. The corps was young and inexperienced in military matters. Punctures were by no means infrequent, but actual breakdowns were very few, in spite of the fact that the roads travelled over were exceedingly bad, being often mere tracks on the downs. It would appear, therefore, that one is brought to the conclusion that as far as peace manœuvres can foreshadow, what would actually occur in war time, motors are exceedingly practical, and, indeed, indispensable to any modern Army in the field.

The Motor Volunteer Corps had plenty of work to do in 1904, and in September assembled to the extent of 31 cars and 25 motor cycles at Colchester for the Essex manœuvres.

The work here was unquestionably lighter than in the previous year. The roads were distinctly better, and less distances were traversed, but the total mileage came to a fairly substantial figure, being, as already mentioned, 34,816 miles.

The landing of the invaders took place at Clacton-on-Sea, and they then advanced into the country, and occupied many important positions, being, however, eventually driven back to the coast, and compelled to take to their ships.

The fighting took place mainly around Colchester, and between that city and Clacton. The distance between these places is 16 miles, and the advantage of motors in point of speed was here very strikingly shown, as a journey of this length was of course a trifle for a car, and it was the experience of many members of the corps, who were constantly running between the two places, to overtake cavalry on the outward journey, to pass the same men on the journey home, and then to overtake them once more on the second outward journey.

The general work consisted, as in the previous year, in the transportation of the Director of Manœuvres, the umpires, Staff officers, etc. Punctures were not so frequent on account of the better roads; breakdowns were practically non-existent.

The cars were not nearly so much impeded by long trains of transport as in 1903, and no complaints were heard as to the annoyance caused to the troops by the constant passing and repassing of the motors. This improvement was probably due to the fact that most of the cars in 1904 were provided with flexible 4-cylinder engines,



which made it much easier to drive them slowly, and, of course, a good deal of experience had been gained by the corps generally.

An experiment was made in arming the corps to a limited extent, but it can hardly be said to have met with much success. From the fact that the greater number of cars were engaged in carrying umpires and other non-combatants, any arms carried by the cars themselves could not be used, and therefore "fighting" was confined to the motor cyclists.

To some of these rifles were issued, but they were found to be exceedingly inconvenient to the riders, it being difficult to arrange to carry them, whilst in the event of a fall, were a source of considerable danger if carried on the back.

At the conclusion of the manœuvres H.R.H. the Duke of Connaught was good enough to express his satisfaction at the work done by the corps. During the present year a great deal of work has been done, and although manœuvres have not been held on such a large scale as in the two previous years, and therefore the number of cars employed at any one time has not been so great, still there have been regular and constant calls for their services. A total distance of 88,929 miles has been travelled by the corps on duty during the eleven months ending the 30th September, 1905, and there is no doubt that the military authorities are fast coming to consider motor cars as an indispensable means of locomotion, without which no Staff ride, inspection, or military operation of any kind can be carried on.

Such, then, is a brief account of what has been done during the past few years, and if I have dwelt rather fully on the Motor Volunteer Corps it is because their cars are far more numerous than those in the Regular Service.

Now, it appears to me that in considering the work done in peace time, one is inevitably brought to the conclusion that motor cars have proved themselves to be speedy and reliable—two qualifications which are very essential in any vehicle intended for military purposes. I think, therefore, that their use in actual warfare is likely to be seriously tried on the next opportunity, and it will therefore not be out of place to consider to what uses the cars are likely to be put, and to what extent they can reasonably be expected to carry out the duties entrusted to them.

Now, the tendency of modern warfare is to scatter troops over largely extended areas, and the necessity of providing a rapid means of communication between the different units, and for purposes of reconnaissance is of ever-increasing value. For time is a very important factor in war; and it is here especially that I believe motors will be found valuable, and, indeed, indispensable.

The motor is essentially a fast conveyance, capable of travelling at a speed three or four times that of a horse, or even more, for in war there would of course be no speed limit. Unlike a horse, it does not require resting, but returns from a long journey ready to start again at once; and further, the car has the advantage of being independent of the country through which it travels, carrying its own supplies for a very good distance—say 200 miles. Despatches can be rapidly delivered, and replies equally rapidly brought back, and the Commander-in-Chief is thus enabled to keep in touch with widely-separated branches of the force under his control. He is also enabled to visit and personally inspect positions which would be otherwise inaccessible to him; and further, he will often be enabled to

spare from his side an important Staff officer whose presence at some point is urgently required, and whom the Commander-in-Chief might hesitate to send, were it not that, thanks to the motor, he knows that he can rely on his speedy return.

All these facilities are available to commanders of brigades and divisions, who are thus enabled to multiply themselves, and to personally visit, if necessary, the different points in the wide area of the scene of their operations. Incidentally, the motor possesses the great advantage of affording rest—at any rate, to some extent—to its passengers; and this appears to me a very important point, as officers will arrive at their destination fresh, and able to devote their best energies to the work which awaits them, instead of being tired and jaded after a long ride on possibly a tired horse. Furthermore, they are able to discuss matters and examine maps on the way to an extent which would otherwise be impossible.

So much for the more obvious uses of the motor in war, namely, for transportation purposes; but there are many other uses which suggest themselves. It is, perhaps, a debatable point whether for the actual conveyance of troops motors will ever be used to any great extent; but a comparatively small body of "motor infantry" would, on account of its extreme mobility, form a very valuable force, capable of travelling rapidly, and with the great advantage of arriving fresh at their destination. An interesting example of this occurred in the recent Austrian manœuvres. A bridge of great strategic importance was threatened by the enemy, and the cavalry of the defenders was too far off to get there in time. Motors were therefore used, which brought up men and guns, covering a distance of 19 miles in 52 minutes, who succeeded in holding the bridge until the arrival of reinforcements. Certainly a motor affords a rapid means of bringing up ammunition, and could readily be employed for ambulance work in conveying the wounded to the rear.

For field telegraph work the car appears to be particularly suitable, and it could lay and pick up a wire far quicker than is at present done by a horse-drawn vehicle, and doubtless in the future we shall see wireless telegraphy motors.

I do not wish to trespass on to the ground of traction, but I think that light motors might readily be adapted to the transport of light guns. These should be mounted on trailers, so that when in action the motor car which drags them might take cover where possible. In bringing the gun into action, the car itself would of course be exposed to the risk of damage, and might be disabled; but this is a risk which would equally apply to horses or any other means which might be suggested for the transport of the guns in question, and there seems no reason why the motors employed for this purpose should not be protected with shields. Weight is of course a consideration, but a reasonable amount of protection could be provided.

I remember well what was, I believe, the first armoured train ever used. That was in Egypt in 1882. The armoured motor will doubtless find a place in the war of the future.

We have already heard of one instance in actual warfare in which a car has carried about and operated a search-light, and I might go on for some time suggesting uses for which motors might be employed, but I think probably at this stage some of my audience



may be inclined to consider that I am wandering somewhat into the realms of Utopia, and am neglecting the practical side of the question.

The principal objection usually urged against the employment of motors for military purposes is that they are dependent of necessity to a great extent on the existence of roads, and, that even if we suppose the existence of these, then that they can easily be held or destroyed. Now, this is of course quite true, but it must be borne in mind that roads exist in most parts of the world, and that, although the motor may not be a first-class cross-country conveyance, it can often go round by road to the desired spot, and although it may have to traverse a much greater distance, it will in many cases get there quicker than a horse going across country. Prolonged cross-country journeys are neither desirable nor, indeed, practicable, but should the occasion arise, a motor is quite capable of making a brief excursion across ordinary ground, and should thus be able to make a detour, and so avoid any particular portion of a road which might be, for the time being, undesirable.

The passage of any Army along the best road that has ever been constructed, with its guns, transport, etc., will cut it up to an extent which has to be seen to be properly appreciated, and it might be argued that on a road which has been practically ruined in this way a motor would be useless. I do not think this would be the case. Progress would be slow—undoubtedly slow—but the same would apply to all wheeled transport, and, indeed, to horses and to troops themselves; but a strongly constructed car with plenty of power can accomplish wonders over the most unfavourable ground when in skilled hands.

The motor car can therefore, I think, be reasonably expected to get to its destination, as far as roads are concerned, provided it does not break down. Now what are the chances of the car failing? In the early days of motoring doubtless it would have been a different matter. The cars were not what they are now; also they were not so generally understood, and a few years ago if one succeeded in driving a car for 100 miles without a stop it was considered a remarkable achievement. Nowadays this has all been altered. I consider that the reliability of the modern car in anything like skilled hands is extraordinary; indeed, I am inclined to go further, and to say that the reliability of the motor of to-day, when handled by the extraordinarily ignorant and incompetent people in whose hands we see valuable and powerful cars, is little short of marvellous.

Each year makes the public better acquainted with mechanical appliances, and I think that there is small room for doubt that in the future, it will be just as much part of an officer's ordinary education to understand a motor car as in the past it has been part of the education of a cavalry man to be able to ride a horse.

We have seen something of this advance of mechanical knowledge in the sister Service, the Navy. The naval officer of the past was a seaman, but very unscientific. To-day a knowledge of engineering is no small part of his training, and the naval officer of the future will, according to the programme at present laid down by the Admiralty, be not only able to take charge of the ship on the bridge, but also to handle the engines, electric lighting, and hydraulic machinery, and will, in fact, have a good working knowledge of any portion of the complex system of machinery which goes to make up the modern battle-ship, all of which was in the past considered as



the exclusive realm of specialists. Is there any reason why something of a similar kind should not obtain in the Army of the future?

When we arrive at this stage the motor car will have no mysteries, but be part of the daily life of the ordinary Army man.

By that time, too, probably the ideal tyre will have been discovered; the tyres at present are the one weak point of a modern motor, and are certainly the greatest cause of involuntary stoppages on the road.

In a car required to travel at a high rate of speed some means must be adopted to absorb the blows given to it by the unevenness of the road surface. In the ordinary vehicle, drawn by a horse at a slow speed, good springs are all that are required. In motors running at a moderate speed indiarubber tyres, in conjunction with good springs, meet the case; but when we get to high speeds these are not sufficient. Pneumatic tyres are usually employed, and so far nothing has come into practical use to take their place, although some forms of spring-wheel with solid tyres are in the experimental stage, which may, and I hope will, be the solution of the difficulty.

The pneumatic tyre has the great disadvantage that at any moment punctures may occur. There are many devices for preventing these. Bands can be applied to the tyres, although these have disadvantages, nail pullers can be provided, etc., but still the danger always exists that a puncture or a burst may occur. In war, where absolute reliability is essential, it would appear at first sight that no tyre which was capable of being punctured should be used.

Now the evils of the pneumatic tyre are many, but they have this great redeeming feature: they can always be put right on the roadside in a short space of time. Should a pneumatic tyre give way, and should it be impossible to stop, as might be the case in war, the car *can* go on. The speed will not be so great, the occupants will be uncomfortable, the tyre will be ruined, and if the car is driven far on a deflated tyre at any speed something will probably be injured; but still, the car can go on for a reasonable time, and that seems to me the great point. Now for a military car you must have speed. If you use pneumatic tyres you will have troubles which can be got over, and if one or even two of the tyres fail, you can, if absolutely necessary, run on, and you will not be very much worse off than if you were on solid tyres; on the other hand, if you use solid tyres at any *speed*, you will expose the car to such a series of shocks that at any time on a bad road you may find yourself with a broken wheel, or some portion of the frame of the car itself, or the engine may give way, which will defy the skill of the most experienced roadside repairer.

I think therefore that with our present knowledge, pneumatic tyres, with all their attendant evils, will have to be used in military motor cars; but I think the pneumatic tyres might well be supplemented by solids carried on the same wheel, so that in the event of a puncture the solid tyre could come into action.

Let me now briefly consider what is likely to be the best type of car for our purpose. Will a steam car or one with an internal combustion engine be most suitable? I think the latter, and for this reason: that it is essential that the car should be capable of being instantly started at any minute; and further, that it should have a large radius of action. Steam cars require an appreciable number of minutes to get under way, and are restricted in the

distance they can travel to the capacity of their water tank. This must necessarily be limited, and the distance which they can travel without calling for supplies may be taken at about half, or even less, of that of which a petrol car is capable.

The ideal car should not be restricted to petrol, but should be capable of running on any of the common forms of paraffin which are sold everywhere all over the world. If this can be arranged, a great advance will have been made in the solution of the problem of motors for military purposes. Unfortunately, so far, although many inventors have come forward with paraffin carburettors, there is not one, as far as I am aware, which is a practical success. They all succeed up to a certain point, and there they fail. It is, however, in my opinion, only a question of time, and I believe in the future we shall have a car fitted with an internal combustion engine capable of running either on petrol, paraffin, or other fuels.

In general design I believe the car should be a fairly large one, capable of seating four besides the driver, fitted with a 4-cylinder engine of at least 20-H.P., and provided with four gears, the top one giving the car a speed of forty miles an hour, and the lowest gear being one which would enable the car to take its full load anywhere. When I say "anywhere," I mean anywhere on roads; but circumstances may arise when the car is not on a road, and its wheels may become embedded in some rut or bog from which no effort of power transmitted to the wheels will free it. To provide for such a contingency it would be well for the car to be fitted with a drum which could be put into gear with the engine. A rope attached to some fixed object could be brought round this drum, and the car could by this means get once more on to a surface on which the wheels could drive. The whole of the machinery should also be carried higher from the ground than is usually the case at present, so that the car would be able to negotiate deep ruts and to pass through a reasonable depth of water.

With a car such as I have briefly described I believe good work can be done, and that warlike operations will, thanks to motor cars, assume an entirely different complexion in the future. I have said "*I believe*" that this will be the case, and that is all that the greatest enthusiast on the subject of motor cars can say at present. Some day, doubtless, someone will be able to speak with authority from actual experience, and instead of hearing suggestions of what motor cars may do in war time, you will hear an account of what they have actually accomplished. When that day comes I venture to predict that the motor car will have proved itself as indispensable in war as it is to-day in peace time.

Major F. LINDSAY LLOYD, R.E.:—In thanking Captain Paynter for his lecture, I think we owe a great deal to the Motor Volunteers for having assisted the Regular Army in the very much more rapid development of the military use of the light car than would have been at all possible had we had to depend entirely upon the grants that the Treasury might allow us to put into the Army Estimates from year to year for the supply of purely military motors. One thing which I think comes out strongly in the lecture, and which we ought to consider seriously, is that motor cars have hardly ever been used for fighting purposes, even in manœuvres. They have been used, and have been of the very greatest value in what I may term the peace side of manœuvres, for the staff work



which is necessary to enable the manœuvres to go on, and to let the combatants know what has been the probable result of the work they have been doing in default of the real bullet and the real shell, which would tell their own story. And consequently I think the first thing we have to do, in order to find out how we can use motor cars in real war, is as far as possible to employ those motor cars, even though we may not at the moment know how to do it well, as a portion of the fighting units in peace manœuvres, and until we do that I do not think it is very much good for us to consider the use of motor cars for the fighting line—armoured motor cars or motor cars, as I had it suggested to me—to bring up ammunition or even water to the men in the firing line. I think if we begin to think of the motor car from that point of view we are thinking of them the wrong way round. We have to think of the question first of all from the point of view of the road; and when we have developed and know how to use motor cars for road purposes, then the development from the road to the field and to the front line will come; but I do not think we must begin at that end. As Captain Paynter clearly puts it, the age is undoubtedly becoming mechanical, and officers are becoming more mechanical; but I do not think military motor cars will ever be able to be used as a real fighting machine until the officers who use those machines get into sympathy with them. I am now speaking more of the Army cars than of those belonging to the Motor Volunteers, because in the Motor Volunteers the officers who drive the cars for the use of the generals and staff officers have themselves the knowledge and the sympathy with their cars that is necessary; but when you have the Regular soldier driving, who probably is not a very highly-trained man, it is then essential to the proper use of the car that the officer whom he is driving shall himself be in sympathy with his car and with its mechanism, and shall also discipline and control the man who is working under him. I am afraid there is a little tendency just now for the car to be considered rather in the light of a useful and powerful livery stable cab, which arrives at the hotel or quarters of the officer who is going to use it. He uses it all day, and it goes away at night and is no more thought of until it comes upon the scene next morning. If the officer on board was in sympathy with the mechanism of the car, that feeling would, to a very large extent, be eradicated. Such sympathy is necessary, I maintain, when we use motors for military duty. As the age becomes mechanical that will become a natural feature, and the sooner the age becomes mechanical enough for an officer to understand that point the sooner shall we get on in the use of the motor. To turn to technical details, I must say I am entirely in accord with what Captain Paynter has said on the subject of tyres. We have tried and failed in the use of solid tyres, and I am not very hopeful, at present anyhow, of the result of the spring wheel. The improvement of the spring wheel means the improvement of the springing between the wheel and the body; but what we want is an improvement in the reduction of the work and trouble between the road and the wheel, and as far as one can see at present that can only be done well by the use of pneumatic tyres. I think we shall see—in fact I think we are seeing, undoubtedly—the rapid advance of the pneumatic tyre as a more reliable and serviceable article. There is one other point that I think we must take much more seriously than we have ever taken it before. It is a point the author has touched upon when he speaks of it as necessary for the ideal car. I go further and say that there is one absolute necessity for any military car used in warfare, and that is, the use of petroleum



instead of petrol as fuel. Until we get the petroleum carburettor, until we can absolutely depend upon petroleum as a fuel for our internal combustion engines—because I am with the lecturer entirely on the subject of internal combustion as against steam—until that day comes, we can never depend upon the use of our cars in actual warfare. Petrol is of such a nature that its carriage and storage to anything like a distance from the main base is almost an impossibility; it has to be very carefully stored, and a leakage is so dangerous (it is very much more dangerous than powder) that petroleum, or a much less volatile spirit anyhow than petrol, will have to be employed. I am glad to say that we are advancing, and advancing rapidly—I think perhaps more rapidly than the author has any idea—in the development of the petroleum motor. During the whole of this summer we have had a motor at work entirely on petroleum. I admit at once that it required careful driving, and that it required a man who knew perhaps more than an ordinary motor car driver to get it along, but it has been run, and run successfully, and without any real trouble except with regard to the knowledge of the man who drives it. We are now advancing, and at the present moment we have under trial several other petroleum carburettors, one of which particularly is giving the greatest promise, and which I think is likely to be successful. I hope everybody who has the subject before him will not consider that, because he has got petrol he has got all that is wanted, and will bear in mind that it is essential to have a less volatile spirit if we are to seriously use our cars away from a civilised country, or even anywhere where war is being carried on.

Colonel the Right Hon. Sir JOHN H. A. MACDONALD, K.C.B. (Hon. Colonel The Motor Volunteer Corps:—This is a subject in which I have taken a very great interest for a considerable time, and, as some of my friends know, I have pressed it, when occasion arose, on the attention of those who are interested in motor cars. It is quite true that we are merely on the threshold of the subject, but I hope that will not deter us from having some imagination in the matter. It is generally the enthusiast who suggests something that is believed to be impossible, he himself believing it to be scarcely possible, who succeeds ultimately in bringing out what constitutes success; and we have only to look at the books of the late Jules Verne to understand how it is that a man may describe things that are like fancy fairy tales, many of which have soon been exceeded. And this is particularly true in the matter of the power vehicle itself, which Jules Verne practically described in one of his tales. Therefore, I think we have to thank the lecturer for giving us very good guidance in the direction in which we should go. I must say I deprecate myself there being any doubt upon the question about the power vehicle being practicable and practical for war purposes. It may not be so at the present moment, but a vehicle moved, as we can now move it, by the aid of an explosion engine, must ultimately come to be of the greatest possible value in war, not merely for the purposes of taking generals and umpires about at manœuvres, not merely for the purpose of transport, but also, I believe, for purposes of the combat itself. And I allude particularly to what ought to be before all the citizens of this country—war in our own country. We have two things to do: The first is the one which we ought to do with success, because if we do not, the second will probably be of very doubtful success. We have to keep an enemy from landing in our country; but if he ever gets there we have got, as the second thing, to turn him out. The

second might be work of enormous difficulty, and therefore all our attention should primarily be devoted to the first, in the absolute certainty that if we work hard for the first, that is the only thing that will give us the chance of succeeding in the second, if we are driven to it. I want people to realise for one moment what a difference the fact will make of our having perhaps 200,000—as we certainly shall have within the next year or fifteen months—200,000 vehicles in the country which are each capable of travelling at a rate of, say, on an average, twenty miles an hour all over the country, and carrying five, six, or seven people in each of them. To my mind that simply doubles the available power of any infantry force you may have in the country, because although we are told we shall get no warning of a raid, we shall at least get a warning that it is coming when those who are to carry it out are upon the sea. We ought then to be able with perfect ease to concentrate all the troops that are within a hundred miles of the shore at any point on the coast within that distance in one day. If such a thing is practicable, there is not a single individual who possesses a motor car who would not put it at the service of the military authorities, and we should then have a very substantial advanced guard pushed forward, and the same cars which took forward the advanced guard could return, pick up some of the troops marching on the road, and so take them up to the front without any delay. And all this could be done without any elaborate organisation, and without any practical expense at the moment at all. I am assuming all through this argument that our fleet is not there to smash up the attacking force, although we believe that the fleet will be there, and I have no doubt Captain Paynter will agree with me that it will be there; but we have to consider the question of some disaster having happened. We cannot contemplate a mutiny on board British ships, but we have to contemplate the fact that there may be some cause—it is very difficult to see what it could be—that would prevent our fleet being in active exercise against a raiding fleet coming by sea to this country. But suppose it is not there, shall we ever stop a landing unless we have at the place where the enemy tries to land a very considerable number of the largest and longest-range guns that can be turned out of our arsenals. I do not know whether we have got these guns in the country; all I can say is that we ought to have them. But each of those guns, which could be moved with rapidity by means of motor traction, would practically be worth five guns immovable in forts. The enormous guns we have at Portsmouth or Dover or anywhere else would be of no use to us if the attack by the enemy was being made on the coast of Yorkshire or Scotland; but if we had our heavy guns so constructed that they could be hauled along the road parallel with any attacking forces, those guns would be a better protection to us than Volunteers with rifles lining the shores; at least, their value would be very great. They would be the only means of preventing the enemy's ships from coming close in to cover a landing, and so keeping down the fire of the defenders. I think it is essential that motor transport and motor carriage should be developed in the most efficient manner for gun service. As Captain Paynter has said, there ought to be on all motors which are used for military purposes on a large scale a capstan drum. These enormous guns may require to be hauled up to places where they could not be brought into position by horses or by the motor car itself, but with the aid of two or three powerful motor vehicles, with proper capstan drums, and the use of the block and tackle, we ought to be able to do rapidly what the Boers did slowly by hand labour—run the guns into the places where they are



wanted, even though it be up a steep hill or over rough ground. As a difficulty in the use of motor cars in war, the tyre question is one which bulks largely in everybody's mind. To me the way to get over the tyre difficulty is that as long as you are compelled to use pneumatic tyres you ought to carry some spare wheels with the tyres on them ready fitted. If you are going to send motor cars out to do military duty they ought never to go out singly; they ought to go in groups of, say, perhaps six cars, grouped according to speed power, and a couple of spare wheels with such a group—supposing, as I have no doubt will eventually be the case, that they were replaceable the one by the other—would get over the tyre difficulty. You ought to have sufficient men to take off a wheel with its burst tyre and put on another, and then repair the burst one in the car, while you are running along the road. That is my suggestion for getting over the tyre difficulty, as long as you are in the position of having to use pneumatic tyres, and have to face the probability of their being punctured. I do not wish to detain you any longer, except to say that it would be a very good thing if everybody in this country who is connected with the Army as an officer would set himself at once to learn something about the working of a petrol engine and the working of a petrol-driven car. I think it would be a very good thing if nobody was allowed to get into the Army until he had learned the rudiments of the management of a motor car. In answer to the criticism that officers have to pass in so many subjects already, I would point out that any intelligent person can in a week or a fortnight learn all that is necessary for practical purposes as regards the construction of the engine and gears of a motor car. It is impossible not to see that it is one of the most important elements in the future, both for the purpose of attack and of defence. There may be difficulties in doing one thing and in doing another thing, but there are a great many things that can be done, and they can be done with a rapidity which was quite unknown in past times. I will just say in conclusion one word of warning. If we allow ourselves to settle down to the belief that something cannot be done in the way of the development of the motor car for the purposes of warfare, we may rely upon it that we shall find ourselves far behind some other nation which is determined that it shall be done. We have been ahead in this matter ourselves; I suppose we were the first people in the world who, with the aid of Colonel Mayhew and his friends, established a Motor Volunteer Corps, which I must say is the cheapest service to the Government which exists at the present moment. Let us not be behind, but press forward towards the development of what I consider to be, and what all men who have considered it carefully consider to be, one of the most important advances for the defence of the country that has ever been developed among us. The defence of our country is what we must look to in the first instance with regard to military matters, and we may rely upon it that everything we do to prepare ourselves for the defence of the country will be substantially useful if we have to fight anywhere else.

Lieut.-Colonel C. H. PAYNTER, Royal Monmouth R.E. (M.):—With regard to the remarks of the last speaker as to the usefulness of motor cars, it is quite likely that we shall shortly have an opportunity of showing what they are able to do in that way in this country. The tendency in all the manœuvres now is to hold combined operations with the fleet, and we have already got to this point: that the enemy is supposed to land either in England or in Ireland. I think the next form



the manœuvres will take will be that the garrison of England will attack the garrison of Ireland, and the garrison of Ireland will be expected to repel them, or it will be *vice-versâ*, the garrison of Ireland attacking the garrison of England and the latter being expected to repel them. In that case the useful corps, of which the lecturer is a representative, will be the first called upon to repel the invasion, if it should take the form of Ireland invading this country. I believe there is no Motor Volunteer corps in Ireland, so that if the invasion should take place in turn from one country to the other we shall see the great advantages of the Volunteer Motor Corps in peace manœuvres. With regard to the breakdowns of motors, I think a great deal too much is made of them. What is there that does not break down? I have not seen much of war myself, but what I have seen is, that practically everything breaks down occasionally there except a mule. Everything is mended, and no doubt motor cars could be mended in some way. The lecturer has mentioned what should be one of the greatest advantages of motor cars, namely, that they can use any kind of oil. He has also said that he prefers the internal combustion engine. I would like to point out that the important advantage that he claims as being essential to motor cars, their being able to use heavy oils, is the very advantage possessed by steam cars. Therefore I do not think the last word has been said about steam cars for military purposes. Another difficulty which is likely to occur is that the drivers will fail, altogether apart from the cars failing, and there will be considerable difficulty in replacing them. When a horse soldier is laid up he at once hands his horse over for the public service; but if a motor car driver, who has been driving, say, a Wilson-Pitcher car, is laid up, you would have to go all round the camp before you could find some one who was familiar with that type of car and could drive it; so that you could not leave the motor car for the benefit of the public service in the same way that you can a horse. If some plan of standardising motors could be adopted, a great step would have been made towards efficiency. I do not say that the Motor Volunteer Corps have not shown all the efficiency that could be expected, but still I think probably they would give better results if the motors were standardised to some extent, so that we had a corps consisting of only one make of motor, instead of having a motley crowd, as we saw in the pictures shown, of all types and descriptions. With regard to the uses of the motor car for taking guns about the country, I think it is more probable that, at any rate at first, they will be used for the transporting of lighter guns, such as machine guns, and perhaps the new automatic rifle which fires 600 shots a minute. With regard to the first speaker's remarks as to their suitability for their carrying ammunition, I cannot say, from what I have seen of the internal combustion engine in motor cars, that I am altogether in favour of it. There are no doubt many brave men in both of the Services, the Army and the Navy, ready to volunteer for service in submarine-boats, balloons, or any other engine of warfare; but the driving of a petrol motor loaded up with boxes of cartridges would be a most dangerous undertaking. I should always fear that it might be subject to what I have seen in the streets occasionally—sheets of flame springing out from the car, and we should most probably have a most excellent imitation of a machine gun going off. You would probably do more harm to yourselves than you would do to the enemy by the use of the motor car in that way. That motor cars will be used in warfare there is not the slightest doubt. I remember perfectly well when I was a boy that people said bicycles were all very

well in times of peace, but they never could be used in war. But we all know that bicycles are now used very largely in war. I have nothing more to say, except to allude to the remark made by the lecturer, that one of the great advantages which had been found with motor cars at the manœuvres was that they were able to take the foreign attachés to see everything that was going on. I am very glad the manœuvres which the lecturer attended were of such a character that that should be considered by him as one of the greatest advantages, and I hope that future manœuvres will have the same characteristics.

Brigadier-General E. A. H. ALDERSON, C.B., A.D.C., *p.s.c.* (Commanding 2nd Infantry Brigade, Aldershot):—I feel that I am here to a certain extent under false pretences, because until a short time ago I hated a motor car; I am so fond of the horse that I hated the car. I do not like it now, but I see its utility, and our Chairman of to-day has more or less converted me to its use. I did not see the *précis* of the lecture until I came here this afternoon, and therefore I have not had much time to study it. I was umpiring at a war game at Aldershot this morning, and only just had time to catch my train. I came at a gallop with two horses to the station; if I had had a motor I should not have been so hurried! We are here to-day to think of the probable use of the motor in war. The great point which has struck me is the power which the motor gives to a general in command to get about and see the whole of his command. He can get anywhere in a day. In the last war we know that the front of the armies at times extended as far as ninety miles. If a general can get about even fifty miles in a day and see his men it means a great deal, because there is no doubt that the presence of the commander has an enormous moral effect upon his men. That, it seems to me, is the chief thing a motor will do for us in war. With regard to the car going across country, I know it can do so to a large extent. I was driven at our last Staff Ride by an officer, who drove the car very well, and we went almost anywhere. There is no doubt that a car can go across country, that is by bridle-roads and open fields, to a great extent. Then the motor car absolutely annihilates distance. We could not have done the Staff Rides we have had lately at Aldershot without the car. We were able to see a great extent of country, and all the time to educate ourselves as regards the use of ground, and so on. Lord Kingsburgh told us how useful cars would be for the purpose of meeting an invasion. The point did not strike me before; but if we have a large number of cars and can carry five or six good shots, or whatever the capacity is in each car, there we have a force which can quickly reach any threatened point and make a hostile landing most difficult. Lord Kingsburgh also said that every officer going into the Army should know all about a car. I think, however, the examinations for the Army are quite difficult enough already without that! As regards what I said about a general having a car and being able to show himself along the whole front of his command, I think he should also arrange for relays of horses to meet him at different places. When he got to a certain spot he could get on his horse, ride about and see the troops, and then return to his car again. The lecturer has referred to what a dreadful thing a tired horse is. I know there is nothing so bad; it tires the man as well as the horse. With regard to the question of reading a map while travelling in a motor, my experience is that the car, as a rule, goes too fast for you to read your map well. Captain Paynter also referred to the armoured train which



was used in the Egyptian War of 1882. I saw that train, and I quite agree with him, that in the future the armoured motor car will find a place in war. Captain Paynter also referred to the reliability of the car in skilled hands. I have been astonished at what the car can do in good hands. I do not quite agree that the motor car in the future will be part of the education of a cavalryman in the same way as he learns to ride a horse—I cannot agree with him there. In these days of large extensions, one thing we have to contend with is the difficulty of communication, and there the car will help us enormously; it must be so. It is a very difficult thing nowadays to communicate from right to left and all through your command. I think that when there is actual fighting, the horse is the only reliable means of sending orders, but behind the horse, away from the fighting line, the car will do a great deal for us.

Major G. K. ANSELL, 6th (Inniskilling) Dragoons, Brigade-Major, 3rd Cavalry Brigade:—I think one of the principal difficulties we have to contend with in the use of the motor car in war is the question of the tyres. Solid tyres have been mooted this afternoon, but it seems to be generally agreed nowadays that we must use pneumatic tyres. Up to the present we have had the brains of many scientific men of the country at work to make a tyre that would run on an ordinary road. In case of a war we should have not only very bad roads but also the brains of military experts at work devising something to stop the tyres working at all. In Ireland this year we used bicycles a great deal on some cavalry manœuvres, and we found they worked very well indeed until an ingenious scout devised the idea of carrying one or two penny boxes of tin-tacks with him. With the help of these he absolutely put out of action every man who tried to pursue him on a bicycle; and I think something of the same sort will be done in the case of the pneumatic tyre on motors. There are tyre covers at the present time which are supposed to prevent puncture, but they do not seem absolutely satisfactory. I simply rose for the purpose of calling attention to the fact that we want something better than the pneumatic tyre at present in use in war time.

The CHAIRMAN (Major-General A. H. Paget, C.V.O., C.B.):—There are one or two remarks I should like to make in regard to this interesting lecture from the practical point of view. I have had a motor car of my own for about the last four years, and I have used it during the manœuvres which have been referred to for the last three years. The cars that were owned by the Volunteers were not allowed by Lord Roberts to be used for military purposes; neither during the first manœuvres were our own cars allowed to be so used, but no objection was made to the use of the motor cycle. I will tell you what we did with the motor cycle, and I maintain that what you can do in peace you can do in war, within certain limits. I know it is a common thing for people to remark: “You could not have done that in war.” The mistakes that are made in peace are made in war; that we all know. The good work that is done in peace, people say you cannot do in war. I say you can, and I will give you an illustration of it. A young officer of the Guards, on the second day during manœuvres of 1903, when the two forces were opposed, volunteered to leave at dusk, to go round the invaders, who were commanded by Sir Evelyn Wood, during the night, and report to my Chief, Sir John



French, the roads near which the whole of the invaders' forces were disposed and encamped. At this time neither Sir Evelyn Wood nor Sir John French, as it afterwards came out at the Conference, were certain where the force opposing them were placed. This young officer started at dusk, and went over 110 miles during the night. From the south he travelled west, then north, then back east, and so round, and before daylight reported the position of every one of the units of the invading force. Afterwards at the Conference it came out that he had not made a mistake. You will say that he could not have done that in war on account of the enemy's patrols and cavalry pickets. The answer is simply this: Given the number of miles that the flanking cavalry is out wide on the flank, and then it is only a question of the time you can give a man on a motor cycle to get round. That is obvious. It would be a pity if, what with our balloons and mounted troops, we could not locate the flanks of an enemy's force. Therefore I say you only have to locate the flank of the enemy, and to send your motor cyclist away in time, and he will bring back the information you require, unless captured or killed. In time of peace it is sufficient to send one officer; but in time of war you would send more, and from my knowledge of the British officer, we would have a score or more of men volunteering for the job. Here is a case where, in time of peace, two opposing generals did not know at a given moment exactly where the other was camped, and the motor cycle brought back the necessary information to one. Later on, on many other occasions, I have used my own motor. Sometimes I have sent a staff officer, and sometimes I have been in it myself for reconnoitring purposes, for locating, as far as you can, the enemy's cavalry or outlying posts of cavalry. For instance, given a hill wide on the flank of your enemy, and you want to see if you can make any use of it. You get into your motor car; in twenty minutes you are under the hill. You climb up, reconnoitre the position, and get back again. It is quite true you run risks, but in war one has to run risks. I have often used my motor for that purpose, and it has never been captured by the enemy's cavalry. Then you can use your car in another way, from the point of view of comfort. At the last manoeuvres General Alderson was in command of his brigade, containing the enemy's force on the north side of the river. I was on the south side with my guns. The umpires, for reasons best known to them, checked General Alderson's advance. I had certain orders to carry out. The rain was coming down. I could not see with my glasses what was going on, so I got into my motor, went down the hill, across two meadows, over the pontoon, along the lane, and there I was, close to General Alderson, under a high fence. I only had to climb on to the roof of my motor, and with my glasses I had a fair view of what was going on. The telephone wires were brought up to the motor car, and within three minutes the reserves were moving up, the guns were going into their position, and inside the car my staff officer was writing his orders. The rain was coming down in a perfect deluge, but he was able to write his orders in comfort. You appreciate what an advantage that is, because you know what a blurred message is when it comes to you and you cannot read it. I simply mention these facts for the purpose of showing the way in which I myself have used the motor, and I repeat that having used it so in peace, I could certainly use it, under the same conditions, in war. Many suggestions have been made in regard to how a car can be used in war, but not the number of cars that should be provided. I consider that in time of war every army corps should have from nine

to ten motors. I am entirely at one with the lecturer in agreeing that it is quite possible to have fleet motors, the two ends of which would be partially armoured; and those cars could be used as scouts, or for conveying staff officers and generals to the positions to which they want to go for observation purposes. A perfect system of telephones has been introduced into the Service. Practically everything is connected; every regiment and all the batteries of guns are connected up, and ultimately linked up with the Commander-in-Chief. But still you must remember that the wires are very thin and are liable to break, and perhaps it might occur that a very important wire—say the wire between the Chief of an army corps and one of his divisional commanders—might be broken; and then if you had at your disposal a fleet motor, messages could be sent till the wire was repaired, and the loss of time over a distance of, say, five miles would be very little. Ten or twelve minutes would be lost and not more. Therefore I think that in time of war, as we have certainly shown in time of peace, the motor car is indispensable. I go further than that. I say that if, during the manœuvres that we may have next year, one army corps is provided with nine or ten motors and the other is without any motors at all, the army corps that is in possession of motors will have a distinct advantage over the army corps that has none, for the reasons I have already given you. The lecturer brought to our notice the various ways in which the motor car might be employed in war. The subject is a big one, and I do not propose to go into it at the present moment, but I am quite certain that in the future there will be ambulance motor cars. There always are, I am thankful to say, in this world a great many people who are very humane. Dreadful pictures will be drawn of men being left out all night upon the battle-field, and if the country does not provide for such motor ambulances there is no doubt that private subscribers will send out a large number of them. It does not mean that the wretched wounded man is taken any faster to the field hospital or to the dressing station, as the case may be; but what it does mean is, that the motor car returns at the rate of twenty-five miles an hour, so that it is only a question of figures to calculate the number of men you can remove from the field with a motor ambulance as compared with the number of men you could remove with the ordinary ambulance at the present day. I am quite certain that a motor car will be used for that purpose in future. There is one other way in which we ought to use motor cars now. I do not think that anybody has yet made an experiment in this line, but I propose to do it on an early occasion this year with my car. I think a motor car should be attached to the transport, and that motor cars should be used as tugs (for want of a better expression). At every manœuvres I have attended, and certainly during operations in the field, it was an everyday occurrence either to have wagons left behind or very much delayed, with the result that certain regiments or battalions did not get their food, or overcoats, or something else at night. When you come to a stiff hill with tired horses, it seems to me that if you had a motor car and some ropes there should be no delay on those hills on account of the wagons. I think in that respect you will all agree with me. Then there is another small matter I should like to mention, although perhaps you may say it is a personal one. I do think that the general officers in the field should, as regards transport, be self-contained; and I do think, putting aside the uses to which you can put motors as scouts and so on, that general officers should be provided with motor cars for their own use. When troops are in action nowadays one fights generally until it is dark, and

often begin again at daylight next day. The bulk of the men, except those on picket duty, look out for the best place they can find and go fast asleep, and remain there till breakfast time. A great many people who are not soldiers do not understand that a general officer after an engagement does not get much rest. He has his wounded to get in, his marching orders or attacking orders to be got out for the next day; he has to communicate with his chief, wherever he is, and there is work going on the whole night. It might be a question of how long he goes on before he breaks down; so that it seems to me that if the officer commanding an army corps and the officers commanding the divisions were provided with big motor cars, pretty much on the lines that army corps commanders are provided with at the present moment, namely, a sort of caravan car, in which you can keep your papers, and everything is to hand at a moment's notice, including food, it would be a most beneficial thing. When it comes on very wet you can get inside; if you want to write orders, do so in your car. I do think such a car ought to be provided. Then, in conclusion, I must call your attention to the fact, which I think is a very important one, that these cars, although they are very thirsty, are never hungry; they want no sleep, and they never tire; and it seems to me that is a very valuable thing in war, and a very good reason, if there were no other, why they should be employed in time of war. I have very great pleasure in proposing a vote of thanks to Captain Paynter for the very instructive and interesting lecture he has given us, calling attention to the possibilities of the future of the motor car. I have no doubt that on some future occasion, when perhaps the car as a military machine is in a more perfect state, and experiments have been tried, that he will give his attention to it, and go more closely into the question of motor cars being used on a very large scale for transport purposes, which I think would be a distinct advantage for the rapid movement of troops in the field at the present day.



# THE SHORTAGE OF OFFICERS IN THE ARMY.

*By Major Lord DOUGLAS J. C. COMPTON,  
9th (Queen's Royal) Lancers.*

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WHEN one considers the difficulties which beset the organisation of the British Army, one can only feel astonishment that its numbers and efficiency are kept up as well as they are. With the country ruled by a representative government on party lines, and the Army managed by a civilian—a member of the party which happens to be in power—it is, to say the least, severely handicapped.

Perhaps the most difficult problem which successive Secretaries of State for War have to deal with is the supply of recruits, which, being entirely dependent on the popularity of the Army at the moment, must always be an uncertain quantity.

Matters have, to some extent, improved of late, but except at the moment when we are engaged in some war which appeals to the public fancy, the country cares little, and knows less, about the Army. Those who join its ranks do so because it suits their taste, or because they are driven to it by want of employment. There is no feeling that it is in any way a duty to devote even one member of a family to the service of his country; on the contrary, there is still a rather general feeling that the lad enlists because he is incapable of making his livelihood in any other way.

Secretary of State follows Secretary of State, and each one takes up the office apparently full of confidence in his ability to put things on a sounder basis. Each one produces schemes by which he proposes to give the country more men for less money; some even succeed in cutting down some avoidable expenses, and then, having raised the soldier's pay a penny a day, imagine that recruits will come pouring in; but each one retires from office discredited (often unjustly), and a new man commences to undo a system which has cost years of labour to start. Meantime, the Army muddles on in the same old way.

Soldiers—who, after all, should be the best judges—are generally of opinion that there is no way to mend the matter except by some form of conscription; and that it would mend matters there can be little doubt. Think of the difference that even the most limited form, which need scarcely be called conscription, would make. Suppose every male in the United Kingdom, who did not elect to serve in the Regular Army, or in the Imperial Yeomanry, or Volunteers, for a certain number of years, were compelled to serve in the Militia, so many months' training for so many years, what would be the result? The supply of recruits for the Regular Army, the Volunteers, and the Yeomanry, would be immediately increased; every male in the kingdom would receive sufficient training to enable him to take his place in the ranks in the event of war, and the country at large would get to know more and care more about its Army.

So much for the benefit which would accrue to the Army, but the country itself would benefit almost as greatly from its entire manhood having had to undergo a term of discipline and training.

It is a simple solution of the difficulty, and the more one looks at it the more one is attracted by it. There is only one argument against it, and that is, that those who rule are quite certain the country will not have it. As long as that is so we must make the best of present conditions; attract the recruit to the Regular Army by increased finery and pensions (not cubicles and "higher pay"), attempt to arouse the country to some interest in its Army, and by means of rifle clubs, and military cadet corps, give the manhood the first necessities of a military training.

But to counter-balance whatever improvement there is in the matter of recruiting for the rank and file, there is a new difficulty now arising—if it has not already arisen—as serious, or more so, than the difficulty of obtaining recruits for the ranks; I mean the shortage of officers. In these days it is difficult to open a paper or magazine without seeing articles or letters on officers' expenses, the education of officers, the shortage of officers, etc.; but these are mostly written by civilians, or, if by soldiers, by those who have long ceased to be regimental soldiers; so, perhaps, it will not be amiss for a regimental officer, who has spent the last twenty years in constant companionship with regimental officers, to write of the matter as it strikes them.

First, it will be as well to enquire what exactly is meant by the shortage of officers. We read of the successful competitors at the examinations for Sandhurst,<sup>1</sup> and we hear how keen the competition is to gain admission to that college, and yet an enormous number of regiments are without their full complement of officers, and, if rumour speaks truly, there are, at the War Office, a large number of officers' resignation papers awaiting acceptance. The fact is, that the number of cadets who can be accommodated at Sandhurst, and passed from thence into the Army, is at present insufficient to fill the number of vacancies caused by officers leaving the service.

One simple remedy for this would seem to be to increase the size of Sandhurst, so as to pass into the Army the number required to fill vacancies; and if we could be sure that the increased number of officers who are leaving the service each year are not those whom it is desirable to keep for the good of the service, this plan would have its advantages. Promotion would become quicker for one thing, and it seems to be universally accepted that in these days the vast majority of officers are too old for their jobs. There are, however, difficulties in connection with this plan. First, it is hard to say how many of the unsuccessful candidates at the competitive examination for entrance to Sandhurst do not subsequently pass in, or else go into the Army through the Militia. It is only by the actual surplus—that never get into the Army at all—that the number of our officers would be increased were Sandhurst enlarged, and the competition for entrance consequently lessened; the numbers of this surplus are probably small, and a simpler method of attaining the same object would be to increase the number of officers who are let in from the Militia. Secondly, there comes the question of obtaining officers for the Guards

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<sup>1</sup> As the Royal Artillery and the Royal Engineers are not suffering from shortage of officers, Woolwich can be left out of the question.



and the cavalry, which, costing as they do more than other regiments to live in, can only be filled with officers desirous of going to them. Lastly, however successful may be the means taken to fill up the quickly recurring vacancies, the very fact that there are now difficulties in the way of officering the Army which have never existed till lately, proves that "there is something rotten in the state of Denmark." This—whatever it is—should be remedied, as the disease is catching, and one that spreads rapidly. Officers, both those in the Army and those who have left the Service, tell the younger generation their opinion of it. When many officers are leaving because they are dissatisfied with the conditions of the service, one may be sure that their opinion will have its effect on the boys who are making up their minds what profession to adopt. That this is actually the case at present is brought home to one again and again. Only a few years ago, when a soldier was asked what he was going to do with his son, the answer was generally the same: "Oh, put him into the regiment; he won't make money, but he'll have a d—d good time." Now the answer is generally: "Well, I don't know, but he's not going into the Service," and the most frequent variation to that is: "He's going to be a sailor." Why the Navy should now be more popular than the Army it is hard to say, unless because it is generally conceded to be a better run show, and because in it boys get a chance of having their own command, and showing whether they are worth anything before their hair is grey. Whatever the reason, there can be no doubt that the Army is at present becoming unpopular, and consequently suffering from a shortage of officers, and unless steps are taken to make the Army regain its popularity, matters will grow steadily worse.

It is constantly stated that the reason for this dearth of officers is that the pay is too small for the work that is now expected of them, and this is quite true as far as it goes; but the only remedies that are suggested are to decrease the expenses of living in the Army, and to increase the pay, principally the former.

Now it appears that decreasing the expenses of living in the Army—in the way in which it is done—far from attracting more officers, or deciding those already serving to stick to the service, is one of the principal causes of the present shortage. Decreasing officers' expenses almost invariably takes one of two forms: either to interfere with and attempt to limit the ways in which officers spend their money, by prohibiting regimental races, a regimental drag, regimental polo tournaments (this, I am glad to say, has not yet been done, though often proposed), regimental entertainments, etc.; or by making some change which at first sight appears to be a saving, but which almost invariably proves to be really an extra expense to the officers themselves, the saving—if any—being to their parents or guardians when officers originally join, and the State generally making a bit over the transaction. I allude to such changes as the supplying by the State to officers of furniture and of chargers, and also all changes in uniform. The only advantage gained is that "Pater-familias" cannot write so many complaining letters to the *Times*, which he probably enjoyed doing.

The money made by the State on furniture and chargers leased to officers is, I feel sure, quite unintentional, and is too little to be counted as an advantage, but the idea that the State should make any is an additional annoyance to the officers.



The only way in which expenses could be cut down so as to really benefit officers, would be by giving them furniture, chargers, uniform, etc., and that would cost the State money, and would not be such a satisfactory method as giving the officers more pay.

As regards increasing their pay, there is some talk of doing so now, and undoubtedly any increase in pay is an advantage which will be thankfully received, and will be likely to induce more to join the service and to remain longer in it. It is, however, out of the question for the State to enter the Army into competition with others as a lucrative profession, and without that we must be content to recruit our officers from those who join the service because they have a taste for soldiering, or because their circumstances induce them to do so.

There remains one remedy—which is never suggested—and that is to reduce the amount of work which officers now have to do, and to take other steps to make an officer's life in the Army as pleasant as it always used to be considered.

At first glance this appears to be too absurd and unsound a remedy to be seriously contemplated. For years there was an outcry over the want of education of our officers, until at last means have been taken to make officers work harder; and one can imagine the outcry at any suggestion of reverting to the old system. But is it certain that the proper means have been taken to make officers more efficient? Are our staff officers as efficient as they should be? Have we enough of them trained? And are our regimental officers any better educated, or any the better officers than they were 20 or 30 years ago? Soldiers generally answer all these questions in the negative.

The system at present is by multiplying examinations, and increasing the difficulty of them; to make each individual officer work either by himself, or at his own expense with a crammer; and by increasing the amount of drill and manœuvres for troops, and insisting on all officers being present, to cut down the amount of leave obtainable, and keep them constantly with their noses to the grindstone.

It is to this system that is due to a great extent the present unpopularity of the Army as a profession. If the system were sound, the consequent unpopularity of the Army would have to be accepted, and other means taken to procure the officers required, but is it sound? Again officers themselves answer with a decided negative. The late Colonel Henderson, whose views on the training of British officers are perhaps more worthy of attention than those of any other man, living or dead, writes of the British officer of 1899:—"It is to be remembered that even the idlest was not altogether an unwholesome subject. The unattractive and unpractical nature of his training in the United Kingdom or the Colonies was at the root of his apathy. Nauseated with dull theory, cramped by the want of responsibility, his energy unawakened by appeals to his intelligence, with no opening offered to him to acquire that higher knowledge which would have aroused his interest and kindled his ambition. . . ." What Colonel Henderson wrote of the officer of 1899, applies with equal force to the officer of 1905, and if it is admitted that the increased amount of work required of officers has not made them more efficient, and that the system is not sound, it becomes natural to enquire whether it is not possible to increase the popularity of the Army by reducing the quantity of work, while, at the same time,

increasing the efficiency of the officers by improving its quality, and the facilities for learning it.

Before proceeding further, it would be as well to consider what are our requirements in the way of officers, and what there is provided from which to supply those requirements.

We require two sorts of officers: regimental and staff. Considering first the regimental officers, we require men who are accustomed to command and to obey, who have an intimate knowledge of drill, of manœuvre, and of their men, and a knowledge of tactics and of strategy, increasing as they rise in rank. They must be active, fearless, self-reliant, brain and body sound and fit, ready to accept responsibility, quick to take in a situation, or seize an opportunity. and they must be gentlemen. For staff officers we require men who are much more highly educated in all military matters; they must have all the same qualities as regimental officers, indeed, they will have to be regimental officers themselves for a large part of their service; but besides all this, they must have their brains stocked with every kind of knowledge of military routine, organisation and equipment, movements of troops, camps, etc. Their knowledge of tactics and strategy should be greater than that required of a regimental officer of the same rank, they should know something of fortification and topography, and they should be possessed of infinite patience and tact. In short, they should be pattern individuals with universal knowledge.

Of these two classes—regimental and staff officers—we want a very much larger quantity than we have ever had. We want not only enough to fill the staff billets, and to officer our regiments up to full strength in peace time, but a reserve which will be ready in time of war; a quantity of officers serving with their regiments ready trained, and fit at any minute to take up staff duties; a quantity of officers not serving with regiments in peace time, but ready trained and fit at any minute to take up duties as regimental officers, and fill up the place of those taken to serve on the staff, and vacancies caused by sickness and death.

To supply these wants we have a very large number of lads anxious to go into the Army who can be divided into two classes:—

1. Those who mean to make a profession of the Army, and are anxious and ready to do any amount of work, with the intention of soldiering all their lives, and the ambition to become great soldiers.
2. Those who go into the Army for a term of years only, with no ambition ever to rise higher than the command of their regiment; and in this class is included many elder sons, heirs to property and means, who never intend to soldier for longer than a few years.

Now it may be—and very often is—said that the regimental officer should be a much more highly-educated individual than I have here indicated, and that the second class of officer recruits, spoken of above, consists of just those that are not wanted in the Army. “We want professional soldiers, not amateurs,” has become a sort of catchword, used as glibly, and with as little meaning as invectives against “red tape” or demands for “military efficiency.” With reference to the education of the regimental officer it is a question open to argument whether it is advantageous to educate anyone above their station in life, and in any case it is impossible to entirely officer



the Army with embryo generals. Why should a man who spends only ten years in a particular profession—or only one for the matter of that—be dubbed an amateur? In the history of our Army the regimental officers have been by no means the class who have shown up worst, and they have always, to a large extent, consisted of these very men who have no ambition to rise to anything beyond. This is, perhaps, especially the case in the Guards and cavalry. How do these corps compare with other regiments? The cavalry it is difficult to compare with anything except themselves, but those regiments called “crack,” to which go as a rule those very elder sons, and men of means, who never intend to soldier more than a few years, are, generally speaking, as much better regiments than others for soldiering, either on service or in times of peace, as they are on the polo ground, or in the hunting field. The Guards I have heard spoken of by staff officers — not Guardsmen — as an example to infantry regiments of the line.

Now it is in these very corps—of the Guards and the cavalry—that the present shortage of officers is most apparent, and thus it is seen that if the Army is better without the second class of officer recruits spoken of above, the present system is the very one likely to get rid of them. But what is the result? Up to the present, far from anything better having been produced to take their place, nothing at all—better or worse—has been found, and their places remain vacant. It is surely incontestable that the old class of regimental officer is better than none at all.

The question, then, is how to make the supply of officer recruits meet our demand to the best advantage in the way of staff and regimental officers, and the answer which most officers will give is:—Insist on work and proficiency up to the point where officers become good regimental officers and no further, but give every facility to all officers who wish to do so to study particular and the higher branches of their profession.

I have already alluded to the way in which the present system seems to consist in making work for officers to do, and to be devised with the intention—if any—of attempting to make every officer fit himself for the highest posts; but I have not yet spoken of the facilities afforded to officers—who wish to do so—of studying the higher branches of their profession. What are the facilities? When one considers for a moment, they seem to be conspicuous by their absence. It is so difficult to get into the Staff College that that course hardly comes under the heading of facilities. The study of any subject an officer wishes to learn has to be made in his own time, any assistance at it has to be paid for out of his own money, and at present every effort seems to be made to leave him less time of his own, and to officer the service with men with less money of their own. Officers are certainly paid some reward after passing examinations in foreign languages, but in most cases the reward does not cover the expense incurred in learning them, and for no other branch of learning are they paid any compensation at all.

But if there are no actual facilities for study afforded to officers, there are, at any rate, besides the Staff College, certain classes to which they can go to learn various matters connected with the soldier's profession, such as musketry, signalling, veterinary, pioneer, transport.

To begin with the Staff College—granting that it is a most excellent institution, well fitted to give the regimental officer the training



he requires in the theory of a staff officer's work, and of the higher branches of the military profession, still, it is much too small; so small that the limited number of officers who can attend each course have to be selected by a competitive examination, a very severe one from the fact that there are so many men competing for so few vacancies.

Now, if officers are to be given every facility for studying the higher branches of their profession, and for fitting themselves to be staff officers, there should surely be no question of a competition to be allowed to so study. The Staff College should be open to all. All should be invited and encouraged to go. Of course, officers commanding units would first have to recommend candidates as being proficient in regimental work and likely to make good staff officers. If considered necessary, there might be a pass examination before officers were admitted. These checks would keep the numbers within limits, as colonels would not be able to spare more than one or two of their officers from their regiments at a time, and the pass examination might be made to require sufficient ability and industry to prevent any officer from using the course merely as a "shunt," by means of which he could escape service in some unpleasant station.

Another regulation which prevents officers from going through the Staff College course is that which limits the age for entrance to 36. This again seems difficult to understand. There are many cases in which officers are prevented by foreign or active service, or other causes, between the ages of 25<sup>1</sup> and 36 from ever working for the entrance examination, any chance of success at which means for most men a good many months' hard work with a coach or crammer. Why should the officer of 36 be debarred from that assistance in the study of the higher branches of his profession which is given to his more fortunate junior?

If the Staff College is only intended to teach subalterns and captains the duties of junior staff officers, then it would appear that another institution would be desirable, at which all officers—at any rate, up to the rank of second-in-command—could study the higher branches of the military profession.

However, if all officers who wished, and who were recommended by their commanding officers as fitted, were permitted to go through the Staff College course, without any question of competitive examination, perhaps there would be no necessity to alter the age limit.

Now, if this suggestion were carried out, that is, if the Staff College were enlarged, and all officers encouraged to go, what advantages would there be to compensate for the extra expenditure?

In the first place there would be a far larger number of trained staff officers available in time of emergency.

In the second place, the efficiency of the staff officers would be increased, as it would be possible to select the best from those who had passed through the Staff College; and here it may be noted that, though undoubtedly the Staff College does what it claims to do—that is, sends away the officer, after having completed the course, more efficient than when he started it—yet both the Army and the reputa-

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<sup>1</sup> Officers must have five years' service before they can go to the Staff College.

tion of the Staff College suffer from the fact that it is by no means always the officer most likely to make a pattern staff officer who goes through the course. The reason for this is the difficulty of the competitive examination, which chokes off many ambitious soldiers. Excelling in competitive examinations is a gift by itself, and is, moreover, a gift which does not by any means necessarily go with aptitude for either staff officers' work or for high command. Under the present system it is principally those who possess this gift who go to the Staff College, whence it follows that many of our staff officers and of those holding high command—including some of the most able—have never been through the Staff College, though there is little doubt that they would have benefited by doing so.

If it was made easy for every officer, who had ambitions beyond regimental soldiering, to go through the Staff College course, it would be possible to enforce the rule that no officer should hold any staff appointment till he had been through the course, and also to make every officer do a term of soldiering with his regiment between each term of staff service, say two years with his regiment after three years' staff service; this would keep staff officers in touch with regimental soldiering, which would certainly increase their efficiency, and would also ensure a larger number of officers having practice in staff work, which is at least as necessary for their efficiency as that they should have been properly trained in the theory.

In the third place, all these officers would have served a term with each of the other arms besides their own, as this is part of the Staff College course. To have done this is so beneficial to all officers holding independent commands, that unless they do it as part of the Staff College course, it would be advisable to allow all officers—say of the rank of major—to serve for one drill season with each of the other arms.

In the fourth place, we should have a larger number of officers on the active list, as all the officers actually at the Staff College would be seconded, and their places in their regiments filled up. That we require a larger number of officers has already been demonstrated, and while we have a very small Regular Army, and rely on the Auxiliary Forces to swell its numbers when occasion demands, the necessity for a large surplus of trained officers is all the more urgent.

In the fifth place, something would have been done to make officers more content with the conditions under which they serve, and to increase the popularity of the Service.

As regards the various classes—most of them optional—which officers can attend to learn certain subjects, it does not come within the scope of this article to criticise the way in which these classes are organised or managed. They are generally accepted as being excellent, but a knowledge of the subjects taught at some of these classes is required of every officer, whether he has been to the class or not, and a knowledge of many subjects is required, to teach which there are no classes. Every officer should of course go through the musketry class. Garrison classes had also an obvious purpose—to prepare officers for their examinations for promotion; it is hard to see why they should have been done away with. The result of their abolition is that officers pay a crammer to help them to pass these examinations; thus they are put to extra expense, which is contrary to the system of reducing expenses, and destroys the intention of the examination,



which is presumably to ensure that they should do some useful work, and prove their knowledge of necessary branches of military science. Work got up hurriedly with a crammer for examination purposes, and consequently forgotten directly after, cannot be said to do either one or the other. At a garrison class at least an attempt could be made to teach an officer what he ought to know in a useful way.

The signalling of the Army is a pattern of the way in which all such departments should be managed. The class for it is voluntary, so that only officers who wish to learn signalling, or who are selected by their commanding officer as likely to make a good instructor for the regimental signallers, go through it, and knowledge of signalling is not required of officers who have not been through the class. Yet I do not think it is ever suggested that the signalling of the Army is not up to the mark, or would be improved if all officers were obliged to learn it. Signalling is as important for the Army as topography or field engineering. Why should not the same methods be applied to them? The point to be noticed is that signalling is almost the only branch of military science which we treat entirely on the system of training experts to conduct it, instead of making it part of the stock of the Jacks-of-all-trades into which we try to convert our regimental officers.

As regards engineering, there is a cavalry pioneer class and an infantry pioneer class, to which officers can go to learn sufficient of the theory and practice of military engineering to instruct the regimental pioneers in bridging, hasty demolitions, entrenching, etc. So far excellent; but the *raison d'être* of the class is rather destroyed by the fact that every officer is required to pass an examination, for promotion, in the same subjects without going through any class at all!

For topography there is no class, but all officers have to pass in this subject also, in their examinations for promotion. It will be readily submitted that every officer must be able to read maps, and must know how to use a compass; but if we say that no amount of teaching will enable more than one out of every three officers to draw a military sketch which will be of any use, I think we shall be well within the mark. Surely this is a subject for experts, and should be taught to classes of those anxious and able to learn how to make maps. Of the others, nothing more should be required than that they should be able to read and work by them.

Then there is a veterinary class, which is optional, and at which no more is taught than what is already known by every officer who has had much to do with horses. Now, every cavalry and horse or field artillery officer should know more than this of veterinary science. It is a subject, moreover, which every officer could learn. It would therefore appear to be advisable to go further into the subject at this class, and to compel every officer of a mounted branch to go through the class.

The transport, supply, and gymnasium classes are to teach officers extra regimental work. We are not here concerned with them, but the system on which they are worked appears to be the correct one, and the general system which the foregoing remarks lead up to is this:—

1. That there should be classes to teach every branch of military science which will be useful to officers.



2. That in subjects such as musketry, tactics, strategy, and (for officers of mounted branches) veterinary, of which all officers can and should acquire a knowledge, it should be compulsory for all to attend a class and gain a certificate.
3. That in subjects such as signalling, field engineering, and military sketching and surveying, of which all officers are unable to acquire a knowledge, and for which only a certain number of experts are required, attendance should be voluntary, and no officer, except those gaining certificates at the class, should be required to have any knowledge of them.

It may be said that all officers must have some knowledge of topography and field engineering, and that the only question is exactly up to what point that knowledge is required. That does not affect the argument, which is that an expert's knowledge is required of a few, and very much less of the rest. Under the present system we have no experts, and require more than is necessary from all—certainly much more than all are capable of doing to advantage.

Enough has been said to show how the examinations for promotion required of all officers might be simplified. Map reading and such elementary topography as was considered necessary for all, as also the methods of obtaining cover quickly, either by digging or sangars—which would be practically all the field engineering necessary for every officer to know—could be included in the *a* and *b* part of the examination. The knowledge of military law required might remain unaltered, or rather more time might be given for the paper for which books are allowed. As arranged at present, it is nearly impossible to look up in the time everything in the book which is presumably the intention of the paper. Examination in organisation and equipment—a deep knowledge of which is only useful to adjutants and orderly-room sergeants—might also be confined to a paper to be done with books, so as to ensure officers knowing where to find the answers to any questions which might possibly present themselves; such Army organisation as every officer should know will always come under the heading of Tactics. The examination in tactics and strategy should not be reduced at all, but there should be compulsory classes at which officers would be taught those subjects.

There remains the question of leave. From time immemorial subalterns (and their seniors, too) have taken as much leave as they could get, and their commanding officers have kept this amount within reasonable limits. That system worked very well. Twenty years ago, and before that, young officers got very little leave beyond their ten weeks—as often as not curtailed to two months—in the year. But then officers could always get away for a day or two if there was nothing particular going on. Out of the drill season such work as was necessary was arranged so as to allow officers to get away and hunt, or even shoot, two or three days a week, and even in the drill season, after the work of the day was over, an officer could go anywhere he pleased as long as he was back in time for the work of the next day. Where was the harm in that? If an officer chose to spend his night dancing in London between two field days at Aldershot, he may have been rather sleepy during the second, but certainly no more so than he was again and again on service in South Africa or elsewhere, when he had marched during several nights, and marched and fought

on the intervening days. Now, at any rate at some stations, that has all been changed. In at least one brigade at Aldershot a year or two ago it was forbidden for any officer to spend the night away from Aldershot during part of the drill season, and this not at a time when there was any particular reason to account for the order. Those are the sort of orders which annoy and disgust officers. They will do any amount of work that is required of them, and won't even grumble if they know that the work has an object and must be done; but when their privileges—the way in which they spend their spare time and their spare money—are interfered with, they begin to say it is not good enough, and one day something annoys them more than usual, in go their papers, and the services of another (quite possibly promising) officer are lost to the country.

Officers give to their country the greater part of their time and the best work they are capable of; they are prepared to spend the best years of their lives in horrible countries with pestilential climates, and they are ready and eager to risk life and limb in the service of their country at any moment. This they do for a miserable pittance of pay, and then they are often treated like naughty schoolboys! Perhaps it is this treatment as much as anything else which causes the present shortage of officers.

Returning to the question of leave, the simplest and best system on which to work seems to be to insist on every regiment having a certain number of officers present with it—the number laid down varying according to the season of the year and the work on which the regiment is engaged—and leaving the rest to the officer commanding it. He knows which of his officers know their work and can be spared, and which of the juniors are fit to take the place of seniors who are away. There is always this to be said in favour of leave, and it is a very strong argument, that if the seniors are never away their juniors never get a chance of practising the work of the rank next above them. The battalion which has had all its company leaders present throughout a drill season will undoubtedly make the best show at a field day or inspection at the end of it; but send it on service, and a few weeks later when half the company leaders have gone, owing to casualties, staff employment, and what not, then the subalterns commanding companies in their places (yes, and their colonel too) will wish that they had had a little practice as well as example at the job in peace time.

There is a mean between the extremes in the leave question as in every other, and it is equally absurd to allow young subalterns, who do not know their work, to have as much leave as they care to ask for, and to refuse leave to an old captain or major who has spent the best part of his life soldiering under all conditions, because it happens to be the drill season.

This suggests another method of increasing our reserve of officers. That is, to grant to officers who are recommended by their commanding officers as knowing their work thoroughly well, who have served, say, two years in their present rank, and have passed for promotion to the next senior rank, one, two, or even three years' leave, during which they will draw no pay, be seconded from their regiments, and their places filled up. Many officers would avail themselves of this privilege when they were contemplating leaving the Service altogether, and of those a good many would ultimately come back instead of leaving. To grant leave without pay to others who have a craving for exploring



some country or shooting big game. To others, again, whose business affairs demanded a lengthy stay in England while their regiments were abroad. Of those who took this leave many would come back the better officers for having seen other countries, or met and mixed with other men besides soldiers. It would only take a month or two on their return to rub up their military knowledge, and make themselves acquainted with the changes that had been made during their absence, and they would be just as useful regimental officers as ever they were. If the contrary is argued, it can be replied that already officers on foreign service are allowed as much as a year's leave; some officers go on personal staffs of Viceroy or Governors for five years, sometimes more, during which time they do no soldiering; others are seconded from their regiments on becoming Members of Parliament, and others, less fortunate, are placed on half-pay, when, owing to sickness, they are unable to serve for a considerable time. I have never heard it said in any of these cases that the officers have been less efficient afterwards, nor that others grumbled at their coming back to their old places in the regiment.

If this privilege were granted, not only would many officers remain on in the Service who would otherwise leave it, but also every one of these officers away on long leave would be one more added to the reserve of officers so urgently needed. It is not difficult to imagine, in the event of war, how these would swell the numbers besieging the War Office and beseeching to be given any job which would take them to the front.

It is easy to foresee the criticisms which will be made on the system herein advocated. Doubtless it will be said that what has been suggested is to have a class of professional staff officers and a class of amateur regimental officers, and to give them all the same pay and rate of advancement. To this it may be answered that the intention is to have a class of professional staff officers and a class of professional regimental officers, instead of all being more or less Jacks-of-all-soldiering-trades. As regards the pay, it is so inconsiderable for the junior ranks that it had better be left out of the question. The State could never afford to compete as a paying profession with the Stock Exchange or "business," and the fact that nowadays so many gentlemen do go into the City or into business is one of the causes of the actual dearth of officers. As regards advancement, the present system, simply stated, is advancement by seniority until an officer comes on the staff of the Army, and advancement by selection after that. There are, of course, exceptions to the rule, as when an exceptionally able officer is offered promotion into another regiment, or when an exceptionally inefficient officer is passed over for promotion, or advised to retire from the Service. This rule, with its exceptions, cannot well be bettered, because under it the really clever, efficient, hard-working officer gets advancement as it is, and would probably do so even more if facilities were given him for studying his profession, as suggested. Moreover, he is the one who would ultimately rise to the top, whereas the man who never attempts to be more than a regimental officer will never rise higher than the rank of Lieut.-Colonel, if so far.

To recapitulate:—

1. Insist only on officers doing the work necessary to make them thoroughly efficient as regimental officers, but give every facility for, and encouragement to, all officers to study the higher and all branches of their profession.



2. Enlarge the Staff College, abolish competitive examination for admission to it, encourage all officers recommended by the officer commanding their unit to go through the course, and make no exception to the rule that after a term of staff employment an officer must serve a term with his regiment.
3. Adopt a system of specialists for all branches of military science which it is not necessary for every officer to know, such as signalling, field engineering, and military sketching, giving any officers who wish, opportunities of attending classes where these subjects are taught.
4. Insist on the number of officers really required being present with their corps, and leave it to the officers commanding units to grant leave to the surplus as they think fit.
5. Avoid all interference with the way in which officers choose to spend their spare time and money; there are many easier and more unwholesome ways than playing polo, driving a drag, or even giving a ball. The most that should be done is to insist that all subscriptions to regimental clubs, entertainments, etc., be voluntary, with the exception, of course, of those of mess, band, and furniture funds.
6. Remember that change is in itself a bad thing in the Army, and that changes should only be made when the good to be gained distinctly outweighs the evils of changing.

# FROM PORT ARTHUR TO MUKDEN WITH NOGI.

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Infantry Association."

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DURING his tour of service as an attaché with the Japanese Army during the recent war in Manchuria, it was the writer's good fortune to be attached for part of the time to the 3rd Japanese Army, under General Nogi, and to have been present at the fall of Port Arthur and the closing days of the battle of Mukden.

In what follows it is proposed to indulge in some reminiscences and to endeavour to throw some light on the character of the Japanese soldier, whose wonderful and unexpected prowess aroused the attention and interest of the entire civilised world.

It may well be questioned whether any single military achievement in the world's history surpasses the victory of the Japanese at Port Arthur, which has been aptly termed "a monster heroism," by an imaginative writer. From Nanshan on the 26th of May until the capture of Wangtai Fort on New Year's Day, 1905, it was simply a daily affair of hammer and tongs for the Japanese soldier which put his fighting qualities to the severest test. Always on the offensive, hurled back time after time from the grim and frowning parapet and trenches of the famous fortress, he persisted in his work with dogged energy and unflagging zeal, until he triumphed over his stubborn enemy.

At Nanshan, thirty miles from Port Arthur, the Russians believed themselves in an impregnable position, and here they proposed to check any farther advance by the Japanese.

The position is an ideal one for defence and seems to have been intended by nature for the purpose. Located at the narrowest point of the Liatung peninsula, where the width from sea to sea is only about one and one-half miles, Nanshan, meaning South Hill, rises from the sea and from the low ground with bare smooth slopes that can be swept to perfection by rifle-fire. The profile of the Hill is slightly concave, so that there is no dead ground. Successive lines of trenches encircled the slopes, while the summits were crowned by redoubts and batteries armed with siege guns. Wire entanglements and mines had been freely provided, and even searchlights to guard against night attacks.

According to the text-books it should be impossible to carry such a position by frontal-attack, and yet this was accomplished by the Japanese. The fact that the work of the Japanese Artillery was of a very high order and that the attack was further seconded by a fleet

of gun and torpedo boats on the Japanese right flank, does not detract anything from the splendid work of the Japanese infantry, which, lying under a galling fire from early morning, patiently waited for the psychological moment which did not arrive until sunset.

From Dalny westward to the extremity of the Liatung peninsula the country is extremely hilly, I might almost say mountainous, the hills being irregular, involved and with no well-defined direction. The highest elevations exceed 1,000 feet. After Nanshan the Russians fell back to a new hill position almost 12 miles west from Dalny, their line extending practically across the peninsula from sea to sea. The Gensan heights, nearly 1,000 feet above sea, was the centre and key of the position. On June 26th the Japanese carried these heights in a resolute attack, meeting with little loss. The Russians made desperate efforts to recover the position on July 3rd, 4th, and 5th, but without success. The fighting was very severe and included a night attack with bayonet fighting. The Russians again took up a new position several miles farther west, from which they were dislodged on July 27th. Their final position outside their fortress was the line of heights fronting the fortress, and only  $2\frac{1}{2}$  miles distant. Here the Japanese surprised them on the night of July 31st, and compelled them to withdraw within their forts, saving only a number of detached hill positions on their right and left flanks.

In all the hill fighting from Nanshan to Port Arthur the Japanese infantry habitually laid aside their knapsacks when going into action, and generally discarded their army shoes, preferring their native straw sandals, which they either made themselves from the matting in which rice is shipped or purchased from the canteens for a few sen. While the regulation number of cartridges carried on the march is 150, the infantrymen usually entered the fight with from 200 to 300 rounds, the extra ammunition being distributed before going into action.

Speaking of canteens, the Japanese vendors of soldiers' delights were quite as enterprising as those of any other nation, and it was difficult to get away from beer, sake and cigarettes. Many of the canteen merchants carried fairly complete stocks of clothing, stationery and knick-knacks, but the first three items were always well in advance, being often carried on donkey-back or by Chinese pack coolies when troops were on the march. Like everything and everybody within the sphere of operations of the army, these canteen merchants were under certain regulations prescribed by the War Department.

At Port Arthur the Japanese soldier was put up against one of the stiffest propositions known to military art, viz., to capture a permanently fortified position by an open assault. Here again most text-books would say impossible, or even worse. While the Japanese failed in their attempt, they came near enough to success to justify their leaders in undertaking the assault and to relieve them from any criticisms for having attempted the impossible. Their leaders knew the temper and quality of their men and the quality of the enemy, and had weighty reasons for their desperate endeavour to overthrow all recognised canons of military art. The famous August assaults must ever stand as among the most desperate affairs that soldiers of any land have been called upon to undertake. From early dawn of the 21st until daybreak of the 24th, the Japanese troops were hurled by companies, battalions, regiments, and brigades against the forts and supporting works on the front of attack in the endeavour to break



through that strong circle of defence. The effort was not wholly in vain, for the two Panlung forts remained in possession of the Japanese, but at what a cost! The Japanese themselves admit a casualty list of 15,000, confined largely to two divisions, which means over 40 per cent. for these two organisations. Many of the attachés present believe, however, that the losses were considerably more, and the numerous stories of companies and battalions practically wiped out of existence, with other contributory evidence, would appear to confirm this belief. Had the Russians possessed any enterprise or energy at this period there is no telling what they might have accomplished by a vigorous offensive against the Japanese after the failure of their terrible assaults. But with characteristic indifference they remained within their fortifications strengthening these and building new ones, and leaving the Japanese to repair their losses and to pursue their plans unopposed.

It will not be possible in the limits of a single brief article to recount the details of the siege which now followed. Regular siege methods on orthodox lines were forced upon the Japanese, who several times attempted to cut short the regulations and rules prescribed as long ago as Vauban, only to realise that, after all, the engineers' art cannot be wholly set aside in modern warfare even with such intrepid troops as the Japanese, who seemingly courted death rather than avoided it. Suffice it to say that before the fortress capitulated to the steady, slow and tedious measures of sapping and mining, the Japanese attempted two more general assaults, one at the end of October and one at the end of November. Although these assaults failed in their main object they were not wholly devoid of results and materially shortened the work of sapping which would otherwise have been necessary.

For the five months during which the siege lasted the fighting was constant, close and deadly. In their advanced position at the Panlung forts, taken in August, the Japanese maintained themselves against the concentrated fire of the Russians coming from only several hundred yards distance in front and flank. At this time the Russian artillery had scarcely been touched, and their heavy artillery destroyed daily the protective works undertaken by the Japanese during the night. It was ten days before the latter succeeded in making their position reasonably secure, and during this period they averaged 100 casualties daily in these two earthen forts. The retention of the Panlung forts under these conditions forcibly illustrates one striking feature of the Japanese soldier's character, viz., his tenacity. Ground once gained was rarely, if ever, yielded voluntarily. The only instance, and this a doubtful one, in which the Japanese were forced back, so far as the writer's knowledge goes, is that of Putiloff Hill during the battle of the Shaho. The Japanese themselves claim that they gave up the hill voluntarily, and were attacked while evacuating the position, but this claim requires further confirmation.

To return to Port Arthur, the Japanese lines were soon pushed up very close to the Russian forts using the flying sap. The real struggle commenced after mining operations had begun. At this period the lines were separated only by the widths of the ditches of the forts and the sniping was constant with daily casualties. But most nerve racking of all were the hand and bomb grenades which were freely used by both sides. Imagine, if you can, the nervous strain under which men must labour not knowing what moment a tin can, old shell or rapid-fire cartridge case, containing from one to five

pounds of high explosive, may drop in their midst, an affair of frequent occurrence. In this grenade warfare the Russians had the advantage, as their lines commanded those of the Japanese. To all this must be added the nightly counter-attacks of the Russians, made by small parties, which would charge the Japanese saps in flank, and after throwing a volley of hand grenades, disappear in the darkness. The nerve or rather lack of nerve of the Japanese soldier is something truly remarkable.

On the 18th of December the north Cockscomb fort was mined and successfully assaulted by the Japanese, being the third time that they had attempted the capture of the work. December 28th and 31st, respectively, the Erhlungshan and Sungsushan forts were similarly disposed of, and it was evident that the end was approaching. During the nights of December 31st and January 1st, the Japanese pressed their advantage and captured the Chinese wall and a portion of the inner line of heights, the Russians resisting but feebly. On the evening of the 1st, a Russian parlementaire brought a letter proposing terms of surrender, and it was apparent that the struggle was over. Firing ceased at 10 a.m. the next day, pending the negotiations, and when night came the joyous banzais of the Japanese troops brought the glad tidings that the fearful contest had at last been brought to an end.

The siege of Port Arthur involved a fearful sacrifice of life, a result inevitable, considering the character of the operations. The best attainable figures give 65,000 as total killed and wounded on the Japanese side. As the combatant strength at the end of the siege did not exceed 80,000 men, this means 80 per cent. of the maximum strength of the army at its greatest. The engineer battalions suffered very heavily, as was to be expected, while many infantry units were almost wiped out. That is to say, of the original men coming from Japan nearly all had disappeared from such units. It must be understood, of course, that in the Japanese system of recruiting, reserves and conscripts were continually drafted and the fighting units kept up to approximately full strength at all times.

The Japanese at once commenced preparations for the transfer of the victorious army to the north to strike their decisive blow at Mukden. The burial of their dead, many of whom had lain where they had fallen since the August assaults, first engaged their attention, and soon funeral fires were seen at several points along the front of attack. Monuments were erected at many points in honour of those who had fallen, and the landscape was soon dotted over with these simple and impressive expressions of reverence for departed comrades. These monuments usually took the form of a plain unpainted shaft of pine set up on a pedestal of broken stone, surrounded by shells picked up from the field. On the shaft was placed an inscription commemorative of the organisation and the event.

The first battalions and regiments moved up to join the Shaho armies in the middle of January. The weather, which had remained unusually mild and open, changed soon after, and the last week of the month witnessed a heavy fall of snow, accompanied by zero temperature. The march of the army continued uninterruptedly, and by the middle of February, General Nogi's army had been concentrated about 15 miles to the west of Liao-Yang, behind the Hun River, and to the left rear of the Japanese lines on the Shaho. Many cases of foot-soreness developed during the march, the troops being unused to



marching, although they had had plenty of fighting. The Japanese shoe is poorly made and of poor material. Added to this the nation is not accustomed to wearing shoes, and the infantry soldier preferred his native straw sandal at all times when the severity of the winter permitted. Even in the coldest weather many cases of the Chinese rawhide peasant shoes were worn by the troops. These are wide, soft, and comfortable, and when stuffed with straw, as was done, they suited the soldiers better than the unaccustomed leather shoe of Occidental countries.

The famous turning movement of General Nogi's army commenced on the 27th of February, on which day he moved out from his position, moving north between the Liao River and Mukden, feeling for the flank of the Russian position. No serious fighting occurred until the 6th of March, when the army was crossing the Sinmintun highway. Here the Russians made an attack to check the movement but were repulsed. On the 7th of March, General Nogi's army faced east astride the Sinmintun highway, one division being south of the road and two north, and endeavoured to break through the Russian defensive lines in the direction of the North Tombs. The centre division broke through the Russian lines at Ssu-fang-tai, but the right division could not advance owing to the Russian resistance. All attempts to advance on the 8th were also frustrated, the Russians holding desperately. On the 9th a dust storm, such as are common in winter in Manchuria, set in and prevented serious offensive undertaking on the part of the Japanese. During the night of the 9th and 10th, General Nogi's army executed a flank march to the north and on the morning of the 10th faced the railway only some 3,000 yards distant. At this time the Russians were in full retreat, having evacuated their defensive positions on the Shaho the night of March 7th-8th, and their sole concern was to cover their retreating troops and to prevent General Nogi from breaking through. For this purpose the Russians had taken up a strong defensive line along the railway, occupying the villages along the track and the railway embankment itself. This line held desperately and resisted all the attempts of the Japanese to break through. It was a magnificent sight, and a magnificent struggle. All day long the Russians could be seen in full view streaming along the road which lies along the railway track, battalions, batteries, train sections, squadrons, and disorganised stragglers, while the Japanese artillery poured a heavy fire on all points where the retreating troops came into view. But the Russian defensive line held firmly, and the Japanese infantry, after approaching to within 400 to 500 yards of the railway, could advance no farther. With the approach of darkness the retreating columns became more attenuated and soon nothing but stragglers filled the fields east of the railway. Not until then did the brave Russian defenders along the railway leave their positions, retiring by their left (south) flank, one battalion after another in good order. First the skirmishers could be seen to rise and fall back, joining successively the supports and reserves, and the whole forming up on the road and marching to the north. The long battle was over, and once more the Japanese remained victors on a hard fought field. General Nogi's army alone suffered nearly 20,000 casualties.

An inspection of the Russian line of retreat along the railway on the day after the battle terminated, revealed a sorry picture of despair and ruin. More or less panic must have seized the retreating



column, which had abandoned much of the transportation, the fields being filled with provision, ammunition, and pontoon wagons. The road itself was covered with abandoned equipment, the Russian soldiers having thrown away articles of winter clothing, haversacks, rifles, belts, and all kind of accoutrement in order to lighten themselves. Many of the Chinese villages along the front of battle had been set on fire, either by artillery or the carelessness of soldiers who had built large fires in the compounds to warm themselves at night, and the poor natives were seen returning to their ruined homes for which they may never hope to receive any compensation.

After Mukden, General Nogi's army, which continued to hold the extreme left of the Japanese line, made two advances, finally crossing to the west bank of the Liao River and taking up a front through Kang-ping and Chinchiatun, some 70 miles north of Mukden. Here it occupied a fortified line and remained in position until the conclusion of the peace negotiations, with no other excitement than the occasional clashing of hostile patrols operating between the fronts of the opposing armies. In the middle of May General Mitchenko made a raid around the Japanese left flank, marching well to the rear of the Japanese front but doing little harm.

In the weary months following Mukden the Japanese soldier took life very quietly. Billeted in the miserable Chinese villages, whose wretched inhabitants were crowded out to make room, the soldiers made themselves comfortable, cleaning up their filthy surroundings and passing the time away in beautifying the dirty compounds or enclosures by ditching and drainage, building walks, and constructing miniature Japanese gardens. What an object lesson it must have been to the Chinese, and it is hoped that the Japanese occupation will not be without some lasting benefit to the hygienic conditions of Manchuria. To still further occupy the soldier's mind, and no doubt as a safeguard against nostalgia, many fêtes and sports were organised. Every available national holiday or event of the war was seized upon to organise some form of entertainment. The national sport of wrestling was encouraged and scarcely a village occupied by troops that did not have its wrestling-ring, where the Japanese soldier daily practised his favourite sport, stripped bare save for the loin cloth. Regimental, divisional, and army fêtes to commemorate anniversaries in the history of the war also occurred, and some of these were of truly gigantic proportions and challenged the admiration of the foreigners, who never ceased wondering how such elaborate preparations were possible in far away Manchuria. One of the most notable of these events was the extensive fête given by the 9th Division at Chinchiatun, close to and within sound of the outpost firing line. This affair was to commemorate the anniversary of the capture of the Paulung forts, in which this division lost most heavily. The fête lasted two days, so as to enable the entire division to attend, and took the form of a Japanese fair, with a huge wrestling-ring, theatre, and many booths for the dispensing of food and drink, such as delight the Japanese palate. Soldiers dressed as geishas, dancers, pedlars, in fact all the good-natured and happy throng. At the wrestling-ring all the crack wrestlers, many of them professionals, competed for prizes, which were usually inexpensive packages of stationery, soap, cigarettes, towels, or handkerchiefs.

In his personal habits the Japanese soldier is distinguished from those of other lands by a number of noteworthy characteristics. He

is naturally of a very quiet and orderly disposition, and not given to roaming about when off duty as is the American. It was frequently remarked that from all outward evidences there were very few soldiers about, yet we knew in fact that the quiet villages held many thousands. When not on duty the Japanese soldier prefers to remain indoors sleeping, reading, or writing letters, of which latter they seem particularly fond. Sobriety is another most striking characteristic of the Japanese soldier, and although beer and sake followed closely behind the troops on the march, and the canteen was manifest everywhere, drunkenness was almost unknown. I can honestly say that while I have on several occasions seen a man slightly under the influence, I never saw a single case of a real drunk.

Cleanliness is another ingrained virtue of the soldier, and his efforts to obtain his daily bath, or rather wash, were both amusing and pathetic. Whenever the army halted bath tubs would be improvised from every available object, the large Chinese stone jars used for domestic purposes and empty sake casks being favourite forms. Water would be heated in their camp kettles or kerosene tins, and daily at evening, even in cold weather, with the thermometer below freezing, naked soldiers could be seen in and about their billets engaged in taking their baths. At headquarters and étape stations quite elaborate bathing facilities were fitted up according to the Japanese plan, and Chinese coolies engaged to carry water to fill the tubs or tanks.

In summer the soldier rises at 5.30, breakfasts at 6, and repairs to the place of assembly at 7 a.m. for some hours' drill or field exercises. While each company of infantry has buglers, no calls are sounded for assemblies, the men making their way individually to the place of assembly. This absence of music is one of the noteworthy features of the Japanese army, which seems quite strange to the foreigner. Dinner is at 12, after which all proficient soldiers had the day to themselves. The less proficient received two hours' drill or instruction from 3 to 5 p.m., supper is at 6, and at 9 the soldier retires to his kang to sleep.

He is an inveterate cigarette smoker and bibbler of tea. The cigarettes are mild and the tea is weak, and neither seem to affect the nerves, if indeed the Japanese can be said to have any.

On the march the Japanese soldier is a good weight carrier and capable of much endurance, but his gait is rather awkward. His body is rather long for his legs, which, with the short steps induced by wearing wooden clogs at home, combine to develop knee rather than hip action. The soldier marches with a perceptible drag as if he were perpetually tired, but in the language of the day, "he gets there just the same."

Considering the qualities which are deemed desirable in the soldier of the day the Japanese certainly seem to come as near to possessing these as any nation on earth. Intelligent and patriotic, calm and phlegmatic, brave and tenacious, they make ideal material for soldiers, and their achievements during the recent war need cause no wonder.

## SOME LESSONS OF THE RUSSO-JAPANESE WAR.

*By Général DE NÉGRIER. Translated by permission from the  
"Revue des Deux Mondes."*

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The progress made in artillery has made people think that its rôle in battle would be a decisive one. This, however, is not the case: its rôle is merely important. The destructive power of the new guns on exposed troops has produced this immediate effect—that they carefully take cover, dig themselves into the ground, both when attacking and on the defensive, and almost always manœuvre under cover of the darkness. From the first engagements, the necessity for adopting these precautions was so obviously necessary that the methods of battle of all arms were at once modified. Let us first recall the composition of the artillery on both sides.

The Russian artillery was sensibly superior to that of the Japanese. Its quick-firing field gun on non-recoil carriages used two projectiles—a shrapnel and a shell charged with a powerful explosive. Its flatter trajectory gave it a greater range than that of the Japanese mountain gun. The Russian Army was also provided with heavy artillery, siege guns, and even mortars.

The artillery of the active Japanese divisions is of the quick-firing Arizaka model, with a calibre of 3 inches. The recoil is taken up by spring brakes, but the gun has to be relaid after each round. The mountain gun of the same calibre is a light piece with an effective range of only some 3,300 yards. Finally, the territorial divisions have a bronze howitzer mounted on a platform, the whole recoiling bodily when the gun was fired; it was brought back again into position by means of wheels working on two axles. These howitzers are moved by means of carts drawn by drag-ropes by those working them; the whole *matériel* was very mediocre, but nevertheless the howitzers were used everywhere.

Invisibility has become an essential condition; this is the dominating fact of the whole war. When batteries were visible or their emplacements were an indication of their position, they were, in some cases, reduced to such a condition that it was not possible to retire them from the field of battles. The epaulements, when they were visible, were not sufficient to prevent the batteries being silenced. Thus, from the battle of Vafangou (14th June, 1904), the artillery on both sides only used indirect fire. As, on the other hand, the ground in rear was scoured by the rain of shrapnel for a considerable distance, and that progressive fire was constantly employed, it was necessary the greater part of the time to keep the limbers under



cover some 800 or 1,000 yards from the batteries. The keeping up of the supply of ammunition was generally only possible when it was carried up by hand. This is a very important point to which we cannot draw too much attention.

When battle is joined, the change of position of artillery becomes difficult. The desideratum of having all the infantry attacks closely supported by the accompanying batteries can only be realised in exceptional circumstances, and this leads to the employment of artillery in massed batteries. The Japanese obtained important results from bringing all their guns into action from the beginning, and employing it in masses. At the battle of the Yalu, they formed batteries of 30 and 36 guns, and at Vafangou, a battery of 110 guns was placed at the pivot of the turning movement. "It dominated the field of battle," said the Report. "Placed in front of the Russian right, its fire enfiladed and destroyed the batteries of the left wing. The great results obtained by the Japanese fire were due to the concentration of the fire of several batteries on the same objective. It is clear that these dispositions tend to increase the difficulties of regulating the fire. The commanders of batteries are constantly obliged to station themselves some distance from their guns. Often the Japanese observers climbed trees, and from there communicated by voice with those serving the guns, or they even betook themselves to the crest of the ridge masking the battery, and communicated with it either by means of a telephone or by flag or disk signals. The ordinary distances of battle fluctuated to ranges of 3,000 yards. Both on the Russian as well as on the Japanese side, fire generally took place by salvos of batteries. It was not possible to make use of the *Rafale*, of which so much has been heard since the adoption of guns on recoil-absorbing carriages. The rapidity of fire of the guns has only been utilised in very rare cases. The difficulty of maintaining the ammunition supply was the reason for this. Very often the artillery on both sides fired its salvos at intervals of three minutes. Often even the intervals were longer, and it frequently happened that some of the artillery was compelled to cease firing for several hours in order to not completely exhaust the sectional ammunition in the rear. The absence of sufficiently distinct objectives and the necessity of economising the ammunition often caused the fire to degenerate into a regular and slow bombardment."

In order to give a better idea of the manner in which artillery was employed, let us enter into some details. On the 9th June, 1904, General Stakelberg bivouacked on a defensive position organised to the south of Vafangou Station. He disposed of 29 battalions, 23 squadrons, and 32 guns. An advanced detachment composed of the greater part of the artillery, a battery of horse artillery, a brigade of sharpshooters, and the 1st Battery of the Field Artillery Brigade, were extended from Lidiadine to Tchidiatoun, on an arc of a circle of four miles, and furnished the advance posts. On the 11th and 12th June the Japanese came into touch with the front by some small engagements. On the 13th, at 10 a.m., they directed against the centre of the position 6 battalions, 6 squadrons, and a mountain battery. The Russian advance posts fell back fighting. On the 14th June the Japanese advanced corps fell back in its turn. Stakelberg proposed to entice the enemy against his position, to exhaust him there, and beat him by a counter-attack. The position that he chose was astride a stream running from the north to south.

The west sector was entrusted to the 9th Division, the eastern to the 1st Division. In the west sector some entrenchments for the infantry and sunken epaulements for two batteries had been constructed. In the east sector, behind the crest of the ground, there were epaulements for three batteries. Some roads giving access to the position had been opened. On the flank of the mamelon that the artillery was to occupy, some trenches were made as far as the bottom of the valley; towards the east they were connected with another line of infantry entrenchments. The retiring movement of the advanced corps began at 6 a.m., a battery of artillery covering the movement which was carried out slowly, first by the 1st regiment of sharpshooters and a regiment of dragoons, then by the 2nd regiment, which reached the designed position in several columns. At 9 a.m. the Russian artillery, seeing the Japanese artillery taking up position, disappeared before fire was opened on it. The 2nd regiment then retreated by *échelons*. Up to this moment everything had been done in good order. On the right the 9th Division had extended a regiment of sharpshooters. The men were lying down ten yards in rear of the trenches which followed the crest. A company occupied the village of Tafanchiou, which had been placed in a state of defence. The remainder of the division (two regiments) were concentrated in the valley to the east of Sizan. The Japanese brought into action a battery of their advance guard. Before opening fire, this battery had sent its limbers to a distance behind a village. The two first shells burst in front of the position of General Guerngross, who was in command of the advance guard, the next two in rear, and the Japanese battery then maintained an effective fire. The general was wounded. The Russians brought up by hand the ammunition for the batteries in their emplacements. One of the batteries regulated the fire. The two others, with it, opened an effective fire, which overwhelmed that of the Japanese battery, the gunners abandoning their pieces and taking refuge in the village, where the Russians watched them. Towards 1.30 p.m. two other Japanese batteries joined in at a range of about 3,500 yards, but their fire was without effect; but another battery, which could only be made out by an occasional flash, could not be located. This group immediately became very dangerous; it fired in accordance with directions transmitted by flags from stations some way off on the adjacent heights. The shells burst at a good height. In a few minutes the 4th Russian battery had lost all their officers and the other batteries had been silenced. Then the Japanese infantry began to creep up the valley. By small groups the skirmishers formed a line of fire at the foot of the heights, then advanced creeping slowly up. The 1st regiment attempted a counter-attack; it suffered heavily, its colonel being among the killed, the survivors regaining the slopes and returning to the trenches. On their side, the Japanese remained clinging to the approaches to the crest, and during the night organised the defence of the conquered ground. On the morning of the 15th June, General Stakelberg made his projected counter-attack against the Japanese right. He drew up two regiments on a front of  $1\frac{3}{4}$  miles and formed a column of attack, consisting of the 1st, 2nd, and 3rd regiments of sharpshooters and three and a half batteries. The 2nd Brigade of the 39th Division formed the general reserve. The rest of the artillery was distributed along the front, and on each side of the guns four piles of six projectiles each were placed. But during the night, as has



been already mentioned, the Japanese had concentrated opposite the Russian right a battery of 108 guns, placed at the point of the turning movement which they had already commenced.

Between 7.30 and 8 a.m. the 3rd and 4th Russian batteries were not engaged. At 8.30 the Japanese infantry made an unsuccessful attack against the front. At 9 a.m. General Stakelberg launched his counter-attack. The 2nd and 3rd regiments extended, keeping three companies in partial reserve; the 1st regiment forming the general reserve. The line of attack advanced by sections, formed in dense lines of skirmishers, who halted from time to time to fire volleys. But very soon the losses were such that all these tactics of the manœuvre ground fell through. The men very quickly formed themselves into small groups which, after each rush forward, reformed themselves in line. In this fashion the Russians reached the foot of the slopes, and were then taken in flank by the fire from a force of cavalry. They could not advance farther, and remained lying down in the dead angle up to the moment when the retreat was ordered (an hour and a half) on account of the outflanking movement of the Japanese. The 4th battery had to be abandoned, the teams having been killed. It was for this reason the Russians left so many guns in the hands of the enemy.

The artillery sometimes produced by surprise great effects on the troops, who, believing themselves to be sheltered, committed the blunder of falling into compact formations instead of extending themselves in small bodies. On the 9th July, in a valley close to Gaitschou, the Japanese had concentrated infantry in mass formation. A Russian battery of thirty guns, placed behind a hill, directed on these troops an indirect concentric fire, and very quickly inflicted on them considerable loss. When the reserves approach the fighting it is always dangerous to keep them massed; they ought to be formed in semi-extended order with intervals between the units.

Often the artillery was sufficient by itself alone to render impassable during the day considerable sections of ground. On the 25th July, at Tatchitsso, the Russians occupied an intrenched line 10 miles in extent, in advance of which, distant some  $2\frac{1}{2}$  or 3 miles, were the posts of the advanced guard, also intrenched. The Japanese attacked these advance posts, and they fell back on the main position. On the 24th, all the Japanese artillery came into action, and maintained a fire for fifteen hours without ceasing. The Russians only placed in line two regiments of infantry and some batteries. After this cannonading, the Japanese launched their infantry, but the fire of the artillery overwhelmed them, and the attack failed. The Russians then committed the blunder of making a counter-attack with the bayonet. One regiment lost 500 men in a few minutes, and it was forced to lie down where it was in order to avoid total destruction. It could only fall back when night fell. During this time the 1st Russian Corps kept in check all day the enemy on its front, with six batteries supported on the outer flank by two batteries of a cavalry division. Not a single infantryman was engaged, and yet the Japanese were unable to push their infantry to within  $1\frac{3}{4}$  miles of the batteries. In proportion as the war prolonged, it is affirmed that during the day the artillery governed the battle, whilst the infantry acted chiefly during the night.



The battle of Liao-Yang lasted from the 29th August to the 2nd September without the batteries on either side doing more than maintain an indirect fire. The Russian batteries suffered little. Against the shrapnel the gunners took shelter in their trenches, and the fire was suspended, so that the artillery struggle was seldom simultaneous. In some cases the Russian batteries, the position of which the Japanese seemed to have detected, changed their position in the intervals of firing, and thus escaped destruction. Two Russian batteries on one occasion suffered heavy losses, because, having changed their position, they had not dug their shelter trenches deep enough.

Against the trenches the Japanese employed simultaneously shrapnel and common shells. These last scarcely produced any effect. Their detonation was violent, but the troops quickly got accustomed to them, so that their *moral* even was not affected. It is now recognised that explosives ought only to be used with shells of large capacity.

The expenditure of ammunition exceeded all expectations. To give some idea we will cite one total alone. On the 23rd July, at Tachichiao, three Russian batteries (24 guns) fired 7,402 rounds. One of the batteries fired 4,008 rounds, that is 502 a gun.

The necessity for having a more powerful artillery than field artillery became manifest from the beginning of the war, both on the Russian as on the Japanese side. The Russians even used mortars. At Liao-Yang 6 batteries of mortars were distributed (two to each) to the 7th, 10th, and 3rd Corps. Their short range only permitted of four being used. Every time that circumstances permitted of it, siege guns were brought on to the field of battle. On the 2nd September, at Liao-Yang, General Oku attacked the centre by the railway. His artillery was grouped by divisions. Some 12-inch guns were brought up on trucks. On the 3rd September, thanks to the effect of this heavy calibre artillery, General Oku was able to advance his field artillery to within 1,200 yards of the Russian lines. The infantry on both sides were firing at from 800 to 600 yards. Nevertheless, in spite of the overwhelming nature of the artillery and rifle fire, the Japanese did not succeed in silencing the fire of the trenches. At 10.30 they delivered a desperate assault. There was only frightful carnage, and the situation remained unchanged till night. It was recognised that the heavy artillery was not numerous enough.

In the defensive organisation of the field of battle at Mukden some batteries of siege guns were placed in front of the Shaho-po Station. During the night of the 28th February, in spite of the Japanese electric search-lights, the Russians took possession of the bridge-head of the Shaho, and maintained themselves there. They only evacuated this position on the 7th March, and then by orders of Kuropatkin.

During the battle use was sometimes made of balloons. On the 28th August the Russians, by means of a captive balloon regulated the fire of their artillery. In general, they were little used.

Artillery of heavy calibre like the howitzer is now indispensable to field armies. We must resign ourselves to this necessity. It is the same with machine guns. Both infantry and cavalry must be provided with them. They can be constantly used, because by means of them a considerable extent of ground can be strongly held with only a few men.

(To be continued.)

## NAVAL NOTES.

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HOME.—The following are the principal appointments which have been made: Rear-Admiral—G. Le Clerc Egerton, C.B., to be Second-in-Command, Atlantic Fleet. Captains—H. H. Torlesse to “Bedford”; G. H. Moore to “Euryalus”; G. A. Ballard to “Royal Arthur”; A. S. Lafone to “Blake”; J. S. Luard to “Leander”; E. H. Grafton to “Endymion”; R. A. Allenby, M.V.O., to “Centurion”; C. E. Hunter to “Scylla”; H. T. Hibbert to “Latona”; T. D. Sheppard to “Enchantress.” Commander—C. D. S. Raikes to “Clio.”

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The first-class battle-ship “Queen” left Portsmouth on the 11th ult. on her return to the Mediterranean for a further term of service. The first-class battle-ship “Prince of Wales” arrived at Portsmouth from the Mediterranean on the 17th ult.; she paid off on the 29th ult., recommissioning on the following day for a further term of service in the Mediterranean. The first-class battle-ship “Albion,” from the Channel Fleet, paid off on the 7th ult. at Chatham, and is to undergo a thorough refit.

The first-class cruiser “Royal Arthur,” flag-ship of Admiral Sir D. Bosanquet, in command of the Fourth Cruiser Squadron, paid off on the 14th ult. at Portsmouth, her crew being transferred to the first-class armoured cruiser “Euryalus,” which commissioned as flag-ship of the squadron on the following day at Portsmouth. The first-class cruiser “Edgar,” also of the same squadron, paid off at Chatham on the 14th ult.; her crew turning over to the first-class armoured cruiser “Sutlej,” which paid off from her former commission in China the same day and recommissioned on the following day to take the “Edgar’s” place in the Cruiser Squadron. The first-class armoured cruiser “Hogue” commissioned on the 15th ult. at Devonport for service with the Fourth Cruiser Squadron, the first-class cruiser “St. George,” late of the same squadron, paying off at that port the same day.

The second-class cruiser “Bonaventure,” from China, paid off on the 7th ult. at Devonport. The second-class cruiser “Latona,” detached for duty on the Newfoundland Fisheries last year, paid off on the 14th ult. at Portsmouth. The second-class cruiser “Venus” arrived at Portsmouth on the 17th ult. from the Mediterranean, paying off on the 29th ult. and recommissioning on the following day for a further term of service on the station. The third-class cruiser “Katoomba,” from Australia, paid off on the 1st ult. at Portsmouth.

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*Loss of Torpedo-boat No. 56.*—No 56 was one of five torpedo-boats specially commissioned at Malta for service in the Suez Canal in connection with the boundary dispute with Turkey. At 5 p.m. on the 17th she left

in tow of the "Arrogant," on her return to Malta, and at 1.30 a.m. the following morning, when off Damietta, she capsized, one first-class petty officer, an able seaman, an engine-room artificer, a leading stoker, and three stokers being unfortunately drowned. There was some sea on, apparently, at the time, and if the boat got into a cross sea the disaster would probably be due to this.

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*Stranding of the "Montagu."*—In a dense fog about 2 a.m. on the morning of the 30th ult. the first-class battle-ship "Montagu," belonging to the Channel Fleet, struck on the Shutters, a dangerous ledge of rocks on the south-west end of Lundy Island. The "Montagu" was employed in testing some new appliances, designed to prevent wireless messages being tapped. She seems to have anchored in a fog in the roads off the north end of Lundy on the previous morning, but to have weighed again in the evening with the intention of going down Channel. Every effort is being made to save the ship, but this will naturally depend upon the continuance of fine weather; she is lying within some fifty yards of the cliff.

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#### THE NAVAL MANŒUVRES, 1906.

*Admiralty Explanatory Statement.*—The following statement explaining the scope of the forthcoming Grand Naval Manœuvres has been issued by the Admiralty :—

The Naval Manœuvres this year will be divided into two distinct periods separated by a week, which interval will be devoted by the Admirals to tactical exercises of their respective commands.

The war-vessels to be employed will include the Channel, Mediterranean, and Atlantic Fleets with their attached cruisers and torpedo craft, the First, Second, Third, and Fourth Cruiser Squadrons, with all torpedo craft in Home waters, both in full commission and in commission in reserve, and the vessels of the Reserve Divisions at the several Home ports. The only vessels in Home waters which will not take part in the first period of the manœuvres will be those undergoing extensive repairs and refits.

Advantage will be taken during the first period of the manœuvres to test the arrangements for mobilisation of the fleet under war conditions.

The co-operation of the mercantile marine has been invited during the second period of the manœuvres.

The general idea of the second period of the manœuvres is based upon the assumption (for manœuvre purposes) that war has broken out between a stronger naval Power (Red) and a weaker but still formidable naval Power (Blue).

Although under such circumstances the primary object of the Red Commander-in-Chief would be to seek out and defeat the Blue fleet wherever it appeared, it is not to be expected that the Blue Commander-in-Chief would risk a general engagement with the Red fleet, unless he could bring to action a portion at a time, and under conditions favourable to himself.

Among the steps that he would be likely to take to cause a dispersion of the Red fleet, with a view to obtaining such an opportunity, the most likely to succeed would be an attack on the Red Trade.



In adopting this course he would count not only on the actual loss he would be able to inflict on his enemy, but also, if the Red Nation was one largely dependent on its commerce, he would be able to reckon on creating a national panic which might compel the Red Commander-in-Chief to disperse his forces to an extent that neither the actual risk to commerce nor sound strategy would justify.

The investigation of the actual risks to which the trade is likely to be exposed under these conditions, and of the best means of affording it protection, without sacrificing the main object of taking every opportunity of bringing the enemy's fleet to action, is evidently of great importance, not only to those who have to conduct the operations, but also to the mercantile community.

An under-estimate of the risk to the trade and a too great concentration of the Red forces might give the enemy the chance of inflicting great and avoidable loss on the merchant shipping, while on the other hand, an over-estimate of the risk might lead to a great rise in the rate of insurance and an almost complete stoppage of trade, which would be more injurious to the country than any losses likely to be inflicted directly by the enemy.

In either case a demand would probably arise on the part of the Red community for an injudicious dispersion of the Red forces on expeditions for the direct protection of trade, which would render them liable to be defeated in detail, and greatly reduce the chance of bringing the enemy's main fleet to action.

Such in outline are the problems to be elucidated (so far as practicable) during the forthcoming manœuvres.

Red territory will consist of England, with defended ports at Milford, Falmouth, Portland, Plymouth, Portsmouth, Sheerness, Swansea, Cardiff, and Barry.

Blue territory will consist of Scotland, Ireland, and the Channel Islands, with defended ports at the Firth of Forth, Queenstown, Berehaven, and Alderney.

*Co-operation of the Mercantile Marine—Official Instructions—* A memorandum issued by the Admiralty to all the shipowners who are co-operating in the naval manœuvres, gives interesting information as to the procedure which is to be followed.

The area of the manœuvres is from England to Gibraltar and the South Atlantic, and is bounded by parallels 60 degrees and 30 degrees N. latitude, and the meridians 10 degrees E. and 20 degrees W. longitude. The following is the general programme :—

June 23.—The war vessels, simulating merchant steamers, start from Milford, Falmouth, Arosa Bay, and Gibraltar, as ordered :

Merchant steamers sail from Falmouth, Milford, and Gibraltar.

June 24.—War-ships on both sides may sail at any time after noon. Merchant steamers within manœuvre area hoist red ensign.

June 29.—Cessation of departures of merchant steamers co-operating in the manœuvres.

July 2.—Manœuvres cease at noon.

Steamers carrying mails, passengers, live stock, chilled meat, green fruit, or vegetables will not be stopped.

*Prize-taking.*—Co-operating ships call at Falmouth or Milford Haven if outward bound, and at Gibraltar if homeward bound, and make their passages thence in company with other vessels, or otherwise, as may be directed by the senior naval officer. Vessels as they collect in the ports will be despatched along the trade route in groups of twelve or less. It is not expected that any ship will be delayed for more than sixty hours.

The enemy's men-of-war will be distinguished by a blue ensign on the triatic stay abaft the foremast, and it will be the duty of the merchant-ships to do their best to escape from the enemy, and to communicate any information they may possess to the Red fleet.

It is laid down that in order to capture a merchant steamer a cruiser must approach within three miles, fire three guns, and hoist a signal to stop. The steamer must then stop at once. At night the cruiser must approach within one mile, and throw her search-light on the steamer she wishes to stop, in addition to firing three guns. To complete the capture the steamer must be boarded, and the number of persons on board ascertained. Should the weather be unfit for lowering a boat, the cruiser must stand by the prize for at least an hour for the capture to be considered complete.

In the event of two or more steamers being in company when three guns are fired by the cruiser, only the vessels within three miles of the war-ship by day or one mile at night are to stop, and the cruiser has to complete the capture of those within the three-mile limit before pursuing the others. After being captured a merchant-ship will haul down the red ensign at the fore and proceed immediately on her voyage without communicating information to either side.

*The Admiralty's Guarantee.*—The original proposals for indemnifying ship-owners against loss have been made more comprehensive as the result of negotiations which have been carried through by the Steam-ship Owners' Protecting Associations—which, in the case of London alone, represent 8,000,000 tons—on the one hand, and the Admiralty on the other, and between whom Mr. Harry Miller was the chief medium of communication. The agreement, which has now been definitely accepted by both sides, provides amongst other things that the Admiralty will indemnify the ship-owners against:—

- a. Any loss or damage to the vessel or other interests from whatsoever cause, including the negligence of the ship-owners' servants.
- b. All claims, expenses, and liabilities, whether arising or incurred under contracts of affreightment on the voyage, or by reason of deviation, wrongful navigation, or otherwise.
- c. All loss or damage to the cargo from whatsoever cause.

For the first 30 hours' delay a sum at the rate of 4d. per gross ton—maximum £60 and minimum £40—will be paid. For every additional twelve hours the rate will be 2d. per ton. In the event of damage the ship-owner will receive 3d. per ton for each day's delay, while the vessel is being repaired, to be reduced to a penny a ton if and when the crew shall have been paid off. The Admiralty, it may be recalled, has covered the risks by insurance to the extent of £10,000,000.

*Mobilisation.*—The first step in the preparation for the manœuvres was taken on the 9th inst., by the mobilisation

at Chatham and Sheerness of the battle-ship "Royal Oak," and the cruisers "Bedford," "Blenheim," "Vindictive," "Scylla," and "Sappho," with twenty destroyers, all for service with the Blue Fleet. At Devonport the cruisers "Niobe" (flying the flag of Rear-Admiral E. H. Gamble), "Europa," and "Essex," with eleven destroyers, also mobilised for service with the Blue Fleet, and left for their destinations. The mobilisation at the Home ports of the ships for the Red Fleet took place on the 14th inst. Admiral Sir A. K. Wilson is in supreme command of the Red Fleet, and Vice-Admiral Sir W. H. May of the Blue.

The Manœuvres are divided into three stages :—

1. Mobilisation, completed on 14th inst.
2. Attacks on Coast Defence, June 13th-19th.
3. Tactical Exercises, June 20th-24th.
4. Commerce Protection, June 25th-July 2nd.

First act of hostility on part of enemy supposed to have been committed on 13th inst.; war declared on 14th inst.

#### "RED" SIDE (BRITISH).

Battle-ships (Channel).—Exmouth (flag-ship of Admiral A. K. Wilson), Russell, Albemarle, Duncan, Cornwallis, Triumph, Vengeance, Glory, Canopus, Goliath, Ocean, Illustrious, Prince George, Jupiter, and Cæsar.

Do. (Mediterranean).—Bulwark (flag-ship of Vice-Admiral Lord Charles Beresford), Queen, Irresistible, Implacable, Formidable, London, and Venerable.

Unarmoured Cruisers (Channel).—Dido, Juno, and Topaze.

Do. (Mediterranean).—Diana, Minerva, and Venus.

Do. (Reserve).—St. George, Theseus, Highflyer, Doris, Æolus, Sirius, Royal Arthur, Grafton, Gladiator, Hermione, Hawke, Edgar, Endymion, Talbot, Charybdis, Thetis, Spartiate, Terrible and Andromeda.

Armoured Cruisers.—(*First Squadron*): Good Hope, Devonshire, Argyll, Roxburgh, Antrim, and Hampshire.

Do. (*Third Squadron*): Leviathan, Carnarvon, Lancaster, and Suffolk.

Do. (*Fourth Squadron*): Euryalus, Hogue, and Sutlej.

Do. (*Reserve*): Cressy and Bacchante.

#### "BLUE" SIDE (ENEMY).

Battle-ships (Atlantic).—King Edward VII. (flag-ship of Admiral Sir W. H. May), New Zealand, Dominion, Hindustan, Commonwealth, Victorious, Majestic, and Magnificent.

Do. (*Reserve*).—Mars and Royal Oak.

Unarmoured Cruisers.—Arrogant, Amethyst, and Diamond.

Do. (*Reserve*).—Furious, Latona, Bedford, Vindictive, Scylla, Sappho, Niobe, and Europa.

Armoured Cruisers.—(*Second Squadron*): Drake, Duke of Edinburgh, Black Prince, Cumberland, Cornwall, and Berwick.

Do. (*Reserve*).—Essex.



The "Red" Fleet (British), under the command of Admiral Sir A. K. Wilson, thus numbers :—

- 22 battle-ships.
- 19 armoured cruisers.
- 25 unarmoured cruisers.
- 8 scouts.
- 8 gun-boats.
- 67 destroyers.
- 63 torpedo-boats.
- 23 submarines.

The battle-ships of the Reserve Divisions at the Home Ports, consisting of the Repulse, Resolution, Ramillies, Barfleur, Centurion, Hood, Empress of India, Nile, and Trafalgar, have also been mobilised, but what their duties are to be in connection with the "Red" Fleet has not yet been made known.

The "Blue" Fleet (Enemy), under the command of Vice-Admiral Sir W. H. May, numbers :—

- 10 battle-ships.
- 7 armoured cruisers.
- 11 unarmoured cruisers.
- 5 gun-boats.
- 57 destroyers.

The above details are as accurate as the information in our possession at the time of going to press, allows us to make them; but it is quite likely that some errors will be found later.

#### THE DESTROYER FLOTILLAS.

##### "Red" Side.

*Portland*.—Depôt-ships Sapphire, Sapphire II., Tyne, Aquarius; the scouts Patrol, Pathfinder, and Sentinel; the gun-boats Speedwell and Jason; and thirty-six destroyers.

*Devonport*.—Depôt-ship Blake; the scout Skirmisher; the gun-boat Sharpshooter; and eleven destroyers. One spare 30-knot destroyer.

*Portsmouth*.—The scouts Forward and Foresight; the gun-boats Spanker, Niger, and Seagull; and seven destroyers.

*The Nore*.—The depôt-ship Leander; the scouts Adventure and Attentive; the gun-boats Gossamer and Speedy; and eight destroyers.

Total destroyers in home waters, sixty-two.

*Gibraltar*.—The depôt-ship Barham, and five destroyers.

Grand total destroyers "Red" side, sixty-seven.

NOTE.—A composite division consists of: One River class destroyer, three 30-knot destroyers.

The torpedo-boats allotted to the "Red" side are stationed as below :—

Devonport	-	-	-	-	-	-	-	12
Portsmouth	-	-	-	-	-	-	-	19
Sheerness	-	-	-	-	-	-	-	20
Gibraltar	-	-	-	-	-	-	-	12

##### "Blue" Side.

*Ireland*.—The gun-boat Skipjack, and seven destroyers.

*Channel Islands*.—The depôt-ship Blenheim; the gun-boats Circe, Dryad, and Halcyon; and twenty-two destroyers.

*Scotland*.—The depôt-ship Hecla; the gun-boat Leda; and twenty-three destroyers.

Lagos.—The depôt-ship *Vulcan*, and five destroyers.

Grand total destroyers "Blue" side, fifty-seven.

After the first period of the manœuvres the following vessels will revert to nucleus crews :—

"Red" Side.—All destroyers and their depôt-ships specially completed for the manœuvres; all torpedo-boats specially completed for the manœuvres.

"Blue" Side.—All composite divisions.

This will leave the strength of destroyers for the remainder of the manœuvres as below :—

	"Red" side.	"Blue" side.
In home waters - - - - -	36	29
At Gibraltar and Lagos - - - - -	5	5

FRANCE.—The following are the principal promotions and appointments which have been made: Vice-Admirals—F. E. Fournier to Command of Manœuvre Fleet; L. A. Caillard to be a Member of the Superior Council of the Navy. Capitaines de Vaisseau—L. A. Donin de Rosière to "Patrie"; L. J. Pivet to "République"; E. P. A. Guépratte to "Jeanne d'Arc." Capitaines de Frégate—L. M. De la Monneraye, A. E. Le Golleur, E. J. L. Aubry, and J. M. Barnouin to be Capitaines de Vaisseau; E. N. Benoit to "Du Chayla"; M. P. De la Roche-Kérandraon to "Mousquat"; J. G. Jaime to "Kersaint."—*Journal Officiel de la République Française*.

It is stated that the Great Manœuvres of the French Fleet will be held between 3rd July and 4th August. Vice-Admiral Fournier has again been appointed to the supreme command, being temporarily granted the rank of full Admiral.

The Manœuvre Fleet will consist of the following :—The Active Squadron of the Mediterranean Fleet, under the command of Vice-Admiral Touchard, consisting of the six first-class battle-ships "Suffren," "Saint Louis," "Gaulois," "Iena," "Bouvet," and "Charlemagne"; the armoured cruisers "Condé," "Marseillaise," "Kléber," and the protected cruisers "Du Chayla," "Lalande," and "Galilée," with seven destroyers and two sea-going torpedo-boats.

The Reserve Division of the Mediterranean Fleet, under the command of Rear-Admiral Germinet, consisting of the first-class battle-ship "Brennus," "Charles Martel," and "Hoche," with the destroyer "La Hire."

The Squadron of the North, under the command of Vice-Admiral Gigon, consisting of the first-class battle-ships "Masséna," "Jauréguiberry," "Carnot"; the coast-defence battle-ships "Bouvines," "Amiral Tréhouart," "Henri IV.," with the armoured cruisers "Gloire," "Léon Gambetta," "Amiral Aube"; the protected cruiser "Forbin," and seven destroyers.

According to present arrangements the Mediterranean Squadron is to be off Algiers on 3rd July, the Reserve Division of the Mediterranean off Toulon, and the Northern Squadron off Oran; the three squadrons are to concentrate at sea on 5th July, and arrive off Algiers on the 6th.

*The Battle of Tsu-Shima and its Effects on Naval Construction.*—The *Temps*, in a recent article on the effect of the battle of Tsu-Shima on recent naval construction, quotes a Japanese officer of experience as saying: "The fighting qualities of the crew counts for more than the perfection of the *matériel*, all weapons being useless unless wielded by a practised and courageous arm."

Japan, Germany, England, and France have commenced to build vessels of 18,000 to 19,000 tons, but with the exception of this generally approved increase of tonnage, no nation has yet apparently settled satisfactorily the relative values of guns, armour, and speed, there being no identity of views in these respects.

Apart from this, it is certainly clear that there is a tendency to augment the calibre and increase the number of the heavier description of guns. Generally speaking, the 12-inch (305-mm.) is the heaviest gun adopted, and is to be mounted in all battle-ships building by Japanese, English, Americans, and French; the heaviest guns actually mounted in the German fleet are of 280-mm. (11-inch); but the new German battle-ships of 18,000 tons are to carry 305-mm. (12-inch) guns. In the concert in favour of heavy guns there is but one discordant note, and this is sounded in France, where the reporter of the Naval Budget has proposed a special type of battle-ship to be armed with 274-mm. (10·8-inch) guns.

The question of auxiliary armaments has caused much discussion in the Press. Should they be abolished? Yes, say some, because it is useless to have a ship encumbered with guns with less penetration and range than those of the main armament, and also the unification of the calibres is an important advantage. Not at all, say others; with an auxiliary armament you have an intensity and rapidity of fire quite unobtainable with the heavier guns. Without expressing an opinion, let us see what is being done abroad and by ourselves.

Our programme proposes ships carrying two classes of guns of heavy calibre. In England the "Dreadnought" has been armed solely with ten 305-mm. (12-inch) guns; the United States and Germany have not yet indicated their views; but Russia has ordered a battle-ship carrying twelve medium-sized guns. Japan, in view of her practical experience, might be considered the arbiter of the question, and is arming the two battle-ships she is constructing with twelve medium-sized guns.

As regards small guns, these are being retained by all Navies.

The second element of protective power, the armour, has also been much discussed. Some have expressed the opinion that the lessons of the battle of Tsu-Shima seem to show that the thickness of the belt may be reduced. England, however, does not appear to share this view, as the "Dreadnought" is to have a 305-mm. (12-inch) belt—a thickness of plating hitherto only given to the preceding ships of the "Lord Nelson" class. Germany also seems to be in favour of retaining the thickness of armour, as the new German battle-ships will have the same plating as their English contemporaries. The new French ships will carry the same armour as those of the 1900 programme; that is to say, a thickness of 280-mm. (11-inch).

Finally, as regards speed, the third element of power, there is no more agreement here than with the first two. Our programme provided for battle-ships of 18½ knots, since increased to 19 knots; England has gone one better, as the "Dreadnought" will have a speed of 20 knots. On the other hand, the estimated speed of the new Japanese battle-ships "Satsuma" and "Aki" would appear to be 18½ knots, and the latest Russian battle-ship is to have 18½ knots speed. The projected speed of the new German and United States battle-ships has not yet been made public.



Another question which has been much discussed is that of the abolition of armoured cruisers, which, in France, has been declared necessary. Other nations, however, have not treated this matter in such a radical fashion. Germany has lately increased her programme by the addition of 6 armoured cruisers, England is laying down 3, Russia has ordered a sister to the "Bayan," and the Japanese, since their victory, have laid down 4 of two different types. There is one important change here, however; up to the present, armoured cruisers have carried guns inferior to those mounted in battle-ships, and have also been given a thinner belt, but the new Japanese cruisers are to carry 305-mm. (12-inch) guns as their principal armament.

On the whole we need not consider the designs of the English "Dreadnought" and the Japanese "Aki" to be prompted by lessons learnt from the battle of Tsu-Shima. They signify a progress which has been gradually led up to, and would have probably been the same had there been no such battle in the Far East.

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*Hydrographical Service.*—The *Temps*, recently, also, had an article on the French hydrographical service, to which it desired to call attention, fearing that in the discussion on the Naval Budget in the Chamber the necessity for reforms in this important department might be lost sight of.

The marine survey with the charts of the north and west coast of France, published between 1816-1835, is by the celebrated hydrographical engineer, Beautemps-Beaupré, but was never properly completed. At the dates these charts were first issued they answered admirably for the sailing ships of the period, but at the present time they are unequal to the demands of steam navigation and for the guidance of the torpedo flotillas, which should be specially acquainted with all the intricate channels, such as off the coast of Bretagne.

The progressive increase of the French Colonial dominions should also be accompanied, if not preceded, by complete surveys of the coasts; as a fact, with the exception of the coast of Tunis, none of this work has been yet completed. The surveying missions which are sent abroad without a properly considered programme and with a *personnel* deficient in technical training, have only been able to produce rough sketch charts, and the consequences of the uses of these imperfect surveys are only too well known in the cases of the stranding of the "Chateaurenault" off the coast of Anam, and the wreck of the "Sully" on the coast of Tonkin.

Three hydrographic missions are at present at work. One on the west coast of France for 6 months of the year, and two others continuously in Madagascar and Indo-China. On the coast of France the charts by Beautemps-Beaupré are being thoroughly revised, this work having been decided on after the striking of the "Charles Martel" in 1896 at the entrance of Brest on an uncharted rock, and of the "Hôche" in 1898 in the pass of Quiberon. The survey has taken 8 years to revise, work which Beautemps-Beaupré completed in four, and as he took 20 years to complete his survey of the north and west coasts, it can be calculated how long our ships will have to wait before they receive the new charts which are so urgently required. The fact is, that the mission has not the means for rapid work; the vessel appropriated for the service is 25 years old, and cannot steam more than 5 knots; moreover, she does not carry any steam-boats, and as the crew is constantly changed, new men have to be instructed in the work each year. In Madagascar, work

was commenced in 1887, but since this date only about one-third of the coast has been surveyed. It will thus at this rate take about 50 years to complete the survey.

In the Corps of *Ingénieurs Hydrographique*, the Navy possesses a *personnel* well capable of doing the work required, if only supplied with adequate means. About 1,200,000 francs (£48,000) is voted in the Budget for hydrographic purposes, which, if slightly increased, would be quite sufficient; but newer and faster surveying vessels must be provided, and this would entail an extra charge of 2,000,000 francs (£80,000), which might be spread over several years.

A circular has been issued from the Minister of Marine stating that in accordance with the advice of the *Conseil Supérieure de la Marine*, it has been decided to abolish all above-water torpedo discharges in all battle-ships and cruisers fitted with submerged tubes.—*Le Yacht, Le Temps*, and *Le Moniteur de la Flotte*.

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UNITED STATES.—*The New Armoured Cruiser "Tennessee."*—The successful completion of the official trials of the new armoured cruiser "Tennessee," which took place on the Government course on 12th February, 1906, marks the addition to the United States Navy of one more of a class of ships of which the United States Navy is very justly proud. The average speed over the whole 80-mile course was 22.15 knots an hour.

The armoured cruiser which, in the earlier days of its development, was intended to hold something of a middle position between the battle-ship and the protected cruiser, has grown so steadily in size and power that the modern type, as represented by the "Tennessee," approximates in fighting efficiency to the battle-ship. This is evident at once when we bear in mind that the "Tennessee" carries as her main armament four 40-calibre 10-inch guns, whose ability to punish the enemy, even at the more distant ranges, is greater than that of the 12-inch guns mounted on the battle-ship "Iowa," for at 5,000 yards the 12-inch projectiles of the "Iowa" can, theoretically, penetrate, if they are capped, 9½ inches of Krupp armour, whereas the 10-inch projectiles of the "Tennessee" can, under similar conditions, penetrate 11½ inches. Moreover, these guns are protected by 9 inches of inclined Krupp armour, which is superior to the 14 inches of vertical turret armour carried by the "Iowa." In a comparison of the secondary batteries, the "Tennessee" shows a superiority in total energy, since she carries sixteen 50-calibre 6-inch guns, each with a muzzle energy of 5,838 foot-tons, and protected by 5 inches of Krupp armour, as against eight 8-inch guns of 7,500 foot-tons, and six 4-inch guns of about 1,000 foot-tons energy, having about the same protection. The total muzzle energy of a single discharge of all the guns of the "Tennessee" amounts to 202,224 foot-tons, whereas the total muzzle energy of a single discharge of all the "Iowa's" guns amounts to only 169,940 foot-tons. Furthermore, the great superiority of speed possessed by the cruiser (22½ knots as against 17 knots) and the higher velocity and flatter trajectory of her projectiles, would enable her to choose a fighting range and bearing with relation to the battle-ship which would put the low velocity guns of the "Iowa" at a disadvantage, and yet enable the "Tennessee" to deliver her fire with telling effect.

Our armoured cruiser fleet consists of twelve vessels, two of which, the "New York" and "Brooklyn," are now somewhat obsolete, although they are undergoing, we believe, a re-armament and overhauling which

will greatly increase their efficiency, at least in respect of the power of the battery. The other ten ships are divided into two classes, in the earlier of which, known as the "California" class, are six ships, namely, the "California," "Colorado," "Maryland," "Pennsylvania," "South Dakota," and "West Virginia." These fine vessels are 502 feet long, 69 feet  $6\frac{1}{2}$  inches in beam, and on a 25-foot 1-inch draft they displace 13,680 tons. Each carries four 45-calibre 8-inch guns in two turrets, protected by 8 inches of Krupp steel, and fourteen 6-inch guns, protected by 5 inches of Krupp steel. They have a continuous water-line belt 6 inches in thickness, and their speed is in every case from 22 to  $22\frac{1}{2}$  knots an hour.

The "Tennessee" class are larger vessels by about 1,000 tons, the increased displacement being secured by carrying the beam out to 72 feet 10 inches and increasing the draft to 25 feet. The water-line and side armour have been re-arranged and somewhat extended as compared with the "California" class, and the speed is about the same. The most marked improvement, of course, is in the main battery and its protection, the four 8-inch guns, protected by 8 inches of armour, giving place to four 10-inch guns behind 9 inches of armour, while two more 6-inch guns have been added to the secondary battery.

The 10-inch guns are mounted in two electrically-controlled, balanced, elliptical turrets, each with an arc of fire of  $270^{\circ}$ . Four of the 6-inch guns are mounted in independent casemates on the main deck; one at each corner of the central superstructure. The other twelve 6-inch guns are mounted on the gun deck in broadside, and each gun is isolated by splinter bulkheads of nickel steel from 1 to 2 inches thick. The whole of the 6-inch battery is protected by 5 inches of armour. Four of the 6-inch guns can fire dead ahead and four dead astern. Of the twenty-two 3-inch guns, six are carried in sponsons on the gun deck, six are mounted in broadsides on the gun deck, three on each beam in the centre of the 6-inch battery, while on the main deck immediately above these and mounted in broadsides between the 6-inch gun casemates are ten 3-inch guns, five on each broadside.

Each ship also carries four of the new 21-inch turbine-driven Whitehead torpedoes. (See Naval Notes in the JOURNAL of February, 1906.)

The hull is protected by a water-line belt of 5 inches of armour, which is worked in vertical strakes amidships, the strakes extending 17 feet 3 inches in height from the protective deck to the gun deck. Throughout the machinery and magazine space this armour is 5 inches in thickness, while forward and abaft it diminishes to 3 inches. This 5-inch armour extends also in the wake of the casemated 6-inch gun entirely up to the main or upper deck. Two-inch nickel steel has been worked in the wake of the 3-inch battery. The barbettes of the 10-inch guns, which are from 4 to 7 inches in thickness, extend from the protective deck to 5 feet above the main deck. The turrets for these guns have a sloping front or port plate 9 inches in thickness, which may be taken as the equivalent of a 12 or 13-inch vertical plate.

Steam is supplied by Babcock & Wilcox boilers to twin vertical triple-expansion engines of 23,000-I.H.P. The "Tennessee" was constructed by William Cramp & Sons, who also built the armoured cruisers "Colorado" and "Pennsylvania," above mentioned, and also our first armoured cruisers, the "New York" and "Brooklyn." — *Scientific American*.



*Bureau of Navigation Report.*—In his annual report, Rear-Admiral George A. Converse, Chief of the Bureau of Navigation, presents a strong argument in favour of the creation by law of a General Staff for the Navy, basing his conclusions upon an experience of forty years in the Navy. It is necessary to the efficiency of the Navy that there should be in the Navy Department some "military administrative authority" to co-ordinate the technical work of the bureaus; to be responsible to the Secretary for the organisation and preparedness of the fleet; and to advise in all military matters.

"Willingly or unwillingly," the Admiral says, "the nation has assumed responsibilities, the burden of which we may not evade. We must play the game. These responsibilities and expanding commerce of increasing volume, reaching farther and farther from our shores, with our long coasts, fronting two oceans and a great sea, bordered with numerous wealthy cities, each a centre of ocean-borne trade, demand acute national provision, and the earnest study of possible and probable international situations. The nature of these clearly indicates the necessity for a powerful and efficient Navy, the possession of which is not the end, but the means to the all-desirable end, their peaceful solution.

The lesson of greatest moment for the Navy, taught by the Russo-Japanese war, is the importance of the *personnel*, the use of which word he applies not only to the active fleet, but to the Department. Although prominence is accorded to the General Board in the new Navy Regulations recently issued, while this is proper, it is not enough. The Board's status and duties should be defined by law.

"The keynote of all effort in the Navy should be efficiency," Admiral Converse continues. "This must start at the top. The chief duty of the Navy is to fight. Administrations may change, but the Navy's chief does not. The question is, then: Is our departmental organisation the best we can have for efficiently providing, organising, preparing, and directing our fleet? In the opinion of the bureau it is not. A fair efficiency can be created under almost any form of organisation where earnest efforts are made to administer it, but common-sense dictates that the highest naval efficiency—demanded as never before for national success in war—must come from knowledge born of study, training, and experience—a knowledge that is essential to intelligent organisation and preparation. A civil officer at the head of each department is essential to the genius of our form of Government, in order that the civil power shall predominate, and that the policy of a department shall accord with the policy of the administration. Each succeeding Secretary should find the Navy he is to wield as an instrument of peace or a weapon of war, a machine well adjusted and ready for the purposes of the administration. It should come into his hands as perfect as possible in the organisation and preparation of its *personnel* and units of fighting. This signifies a continuous administration of purely military details that the present organisation of the Department does not insure or accomplish efficiently."

The Admiral finds that the Naval War College, the Office of Naval Intelligence, and the General Board each perform its respective duties satisfactorily. "But," he says, "this is not administrative work. The deficiency in the organisation of the Department lies in the lack of military initiative and directive force—military administration under the Secretary.

"Theoretically, the bureaus supply, each according to its duties, features of military administration. The duties of the Chief of this

bureau, as defined by the regulations, give him the character of chief adviser or an executive in most matters of a military nature; but, in accordance with the law, each Chief of bureau performs his duty under authority of the Secretary, and the orders of each are considered as emanating from him. The co-ordination of the work of all the bureaux must, therefore, proceed through the Secretary.

"Practically, the bureaux supply only one portion of the military administration, viz., supervision over details, because the time of each bureau Chief is fully occupied in administering his own bureau. The most important and necessary part of the military administration of the Department, initiative and directive force, is lost sight of in large degree.

"It has become more and more evident as the Navy increases, that some military administrative authority should be introduced in the Department, such authority to co-ordinate the work of technical bureaux, and be responsible to the Secretary for the organisation and preparedness of the fleet for war, and to advise in all military matters. It should be his duty to initiate the steps necessary to carry out the policy of the Department as formulated and directed by the Secretary, and under his command to direct the forces in carrying out that policy. The effect of a continued policy of military administration cannot be otherwise than beneficial to efficiency. It is not claimed that it will prove a cure for all evils. Changes will no doubt be required from time to time to perfect the organisation; but the bureau is convinced, from a study of the conditions now existing in the Service, that it is necessary for the efficiency of the Navy. Its necessity was recognised in our last war in the formation of a Board which occupied a place in the Department itself, where the latest information from all points could be laid before it promptly and its advice sought and acted upon with despatch.

"In a really serious war, the demands of necessity will compel the formation of some organisation for the administration of military features, by whatever name it may be called. Its creation and organisation should not be delayed until war forces action."

Admiral Converse also emphasises the need of a provision for two vice-admirals for the command of the North Atlantic and Asiatic Fleets. He also renews his urgent recommendation of last year for legislation which will enable officers to attain command and flag rank at an earlier age. He says:—

"We are training officers in the fleet in command of ships, then retiring them before they can possibly be utilised or trained in subordinate flag commands, and therefore before their abilities are discovered for fleet commands. This condition results in a waste of time, talent, and energy. It is dangerous, extravagant, manifestly ineffective, and therefore inefficient."

Attention is called to the injustice of that provision of the *Personnel* Act which causes naval officers to suffer a reduction of fifteen per cent of pay when on shore duty, and its repeal is recommended.

Regarding desertions, Admiral Converse says that an analysis of this subject during the past year shows that about one-third of the whole number of desertions was in the rating of coal passers. He believes that this can be largely avoided by selecting men for that rating from the apprentice seamen under training at the various training stations. Public sentiment, he adds, can decrease desertions in the Navy by denouncing

those who choose this unworthy method of escape "from their fancied ills or disappointments." Ninety-five per cent. of the petty officers are citizens of the United States, and 75 per cent. are native born. Of the enlisted men other than petty officers, 90 per cent. are citizens, and 84 per cent. are American born. Of the total enlisted force of the Navy, 92 per cent. are citizens of the United States, of whom 81 are native born. Of the 41,000 applicants for enlistment in the Navy last year, 28,000 were rejected for physical disability and other causes.—*U.S. Army and Navy Journal*.

## MILITARY NOTES.

**HOME.**—The following are the principal appointments which have been made :—

**Generals**—General H.R.H. George Frederick Ernest Albert Prince of Wales and Duke of Cornwall and York, K.G., K.T., K.P., G.C.S.I., G.C.M.G., G.C.I.E., G.C.V.O., I.S.O., Colonel-in-Chief the Royal Fusiliers (City of London Regiment), Royal Marines, the Royal Welsh Fusiliers, the Queen's Own Cameron Highlanders, the King's Royal Rifle Corps, and the 1st Duke of York's Own Lancers (Skinner's Horse), to be Colonel-in-Chief of the following Regiments of the Indian Army (dated 1st January, 1906) : 18th (Prince of Wales's Own) Tiwana Lancers, 26th (Prince of Wales's Own) Light Cavalry, 38th (Prince of Wales's Own) Central India Horse, 39th (Prince of Wales's Own) Central India Horse, 1st (Prince of Wales's Own) Sappers and Miners, 14th (Prince of Wales's Own) Sikhs, 61st (Prince of Wales's Own) Pioneers, 130th (Prince of Wales's Own) Baluchis, and 1st (Prince of Wales's Own) Gurkha Rifles (the Malaun Regiment). General H. H. Viscount Kitchener, G.C.B., O.M., G.C.M.G., to be Colonel Commandant, Corps of Royal Engineers.

**Lieut-General** — Lieut.-General Sir G. B. Wolseley, K.C.B., to be General.

**Major-Generals**—Major-General H. L. Smith-Dorrien, C.B., D.S.O., to be a Lieut.-General. Major-General H. F. Grant, C.B., to be a Lieut.-General. Major-General A. H. Paget, C.V.O., C.B., is promoted to the rank of Lieut.-General. Major-General H. C. O. Plumer, C.B., to Command the 7th Division. Major-General A. R. Martin, C.B., I.A., to be Adjutant-General to the Staff in India.

**Colonels**—Colonel E. A. Altham, C.B., C.M.G., from h.p., to be an A.A.G. Lieut.-Colonel K. McLeod, M.D., retired, I.M.S., to be Honorary Physician to the King, and is granted the honorary rank of Colonel. Colonel T. P. B. Ternan, C.M.G., D.S.O., from an A.Q.M.G., to be a Brigadier-General, to Command the Standerton Sub-District, and is granted the temporary rank of Brigadier-General whilst so employed. Colonel (temporary Brigadier-General) J. A. H. Pollock, C.B., I.A., to be Major-General. Colonel (temporary Brigadier-General) R. B. Adams, V.C., C.B., A.D.C., I.A., to be Major-General. Colonel A. W. L. Bayly, C.B., D.S.O., A.D.C., I.A., to be Major-General. Colonel (ranking as Major-General) F. E. Mulcahy, C.B., A.O.D., Principal Ordnance Officer (Director of Equipment and Ordnance Stores), is granted the hon. rank of Major-General. Colonel (ranking as Major-General) H. Thompson, C.B.,



Director-General, A.V.S., is granted the hon. rank of Major-General. Colonel (local Brigadier-General) G. M. Bullock, C.B., Commanding the Forces in Egypt, is granted the temporary rank of Major-General. Lieut.-Colonel and Brevet Colonel J. H. Poett, C.B., Dorsetshire Regiment, to be A.A.G., Command Staff, India. Colonel S. H. Harrison, from an Officer in Charge of Records, to be a Brigadier-General, to Command a Grouped Regimental District, and is granted the temporary rank of Brigadier-General whilst so employed. Colonel W. B. Capper, from Director of Military Education, to be a D.A.G., and is granted the temporary rank of Brigadier-General whilst so employed. Colonel H. B. B. Watkins, I.A., to be a D.A.G., and is granted the temporary rank of Brigadier-General whilst so employed. Colonel C. L. Woolcombe, to be a Brigade Commander, and is granted the temporary rank of Brigadier-General whilst so employed. Colonel F. J. Aylmer, V.C., to be a Brigade Commander, and is granted the temporary rank of Brigadier-General whilst so employed. Colonel H. Mullaly, C.B., is granted the temporary rank of Brigadier-General while in charge of the Mobilisation and Intelligence Sections of Division of Chief of Staff. Colonel (temporary Brigadier-General) F. H. Plowden, C.B., a Brigade Commander in India, is promoted to the rank of Major-General. Colonel (local Major-General T. E. Stephenson, C.B., Commanding Transvaal District, is promoted to the rank of Major-General.

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AUSTRIA-HUNGARY.—*Grand Manœuvres for 1906.*—Manœuvres of the combined arms take place as usual this year towards the end of the training period. This year, unfortunately, however, owing to political reasons, corps on the other side of the Leitlea, the IVth, Vth, VIth, VIIth, XIIth, and XIIIth, will have to content themselves with regimental manœuvres, whilst in Austria the IIIrd, VIIIth, IXth, Xth, XIth, and XIVth Army Corps will carry out manœuvres as army corps, and the Ist and IInd Army Corps will manœuvre against one another in Silesia before the Emperor.

In these last manœuvres there will be on each side 3 infantry divisions, 1 cavalry division, strengthened corps artillery, scientific troops and institutions, making up a total strength of 96 battalions, 66 squadrons, 180 batteries, 2 cavalry machine gun groups, and 8 pioneer companies, who will take part in them. The following will, in addition, participate: 2 balloon divisions, 2 telegraph divisions, mechanical supply transport, several mobile field kitchens, and some administration and medical transport. The companies, including those of the pioneer battalions, will take the field 130 strong, and the cavalry machine gun groups at a strength of 40 men each. The mobile field kitchens will be similar to the Russian ones, will be drawn by 2 horses, and will be used experimentally with each corps, many of various types will also be practically tried. The employment of armoured motors does not appear to be in contemplation; on the other hand, one or other of the completed barrel-recoiling Q.F. batteries will be brought on to the manœuvre ground for inspection by the Emperor. Both sides will be provided with wireless telegraph stations. Cyclists, motor cyclists, and motor drivers will be thus distributed: To each brigade, 1 cyclist; to each division, 3 cyclists, 2 to 4 motor cyclists, 2 to 4 motor drivers (the higher figures refer to cavalry divisions); to each army corps, 6 cyclists, 4 motor cyclists, 4 motor drivers; to the Manœuvre Staff, 4 to

6 motor cyclists, 4 to 6 motor drivers. The greater portion of the motor cyclists and drivers will be taken from the Volunteer Motor Corps.

In addition to the manœuvres in Silesia, the Adriatic naval landing manœuvres have a special interest. In these the following will take part: The strengthened summer squadron (Navy and Mercantile Marine) and troops from the Zara Military Command, with 4 battalions, companies 130 men strong, and with a mountain machine gun group of 40 men, the 23rd Landwehr Infantry Regiment of 4 battalions, 1 squadron and several mountain artillery batteries. The details of these combined manœuvres have still to be worked out; they will, however, take place in the neighbourhood of Sebenico, and are designed to confirm the necessity of this auxiliary base.—*Internationale Revue über die gesamten Armeen und Flotten.*

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**BULGARIA.** — *Regulations for the Employment of Q.F. Guns.* — The following is a brief summary of the regulations issued by the Bulgarian Government for the employment of Q.F. guns, with which the Army has been recently armed:—

The Q.F. gun does not give its full effect if it is employed in slow continuous fire. Artillery should therefore only fire when a really favourable objective presents itself, and then resort to its full rapidity of fire. During the action the artillery is either in position, or watching or waiting. When watching, the guns are in battery, concealed from view, ready to fire as soon as the observers signal an objective. When waiting, the guns remain on their limbers, the battery close to its position for action, the men resting, ready at the first signal to gain the selected position.

As a rule, artillery keeps itself outside the zone of infantry fire; that is to say, about 2,000 yards or more; but at decisive moments it should not hesitate to support the infantry, and remain exposed to the hottest rifle fire. It is often convenient to keep the largest possible portion of the batteries in waiting or watching, and only to place in action the number of batteries required by the situation. Changes of objective are thus avoided, and emplacement occupied not prematurely unmasked. At the commencement of a battle it is frequently of advantage to devote oneself entirely to a fight with the adversary's artillery. As long as one is ignorant of the strength and position of the latter, it is often expedient to open fire with only a few batteries distributed along a wide front (300 yards per battery), and employ their full rapidity of fire to make the enemy unmask himself.

In the offensive, at the commencement of the advance guard engagement, the artillery is distributed on a wide front, and only engages the number of batteries strictly necessary. The batteries thus engaged make use of their utmost rapidity of fire, and must not fear frequent changes of position. In the preparation for the attack the artillery will endeavour to gain the upper hand of the hostile artillery; but it must not be imagined that the latter is destroyed because it momentarily ceases firing. All batteries acting in the same offensive sector should be under the orders of one single commander, including heavy artillery batteries, if there are any. Artillery should, above all, endeavour to act with the greatest efficacy. Anxiety to obtain cover should only be a secondary consideration.



The objectives to be preferably selected are the enemy's infantry, especially when in motion, and the batteries coming into action. As soon as the infantry is engaged, the artillery supporting the attack is broken up. The greater portion of the batteries support the infantry by their fire as long as possible, whilst avoiding the risk of its becoming dangerous for them. At this moment it increases the intensity of its fire, either to fight against the hostile artillery, or to deal with his reinforcements coming into the firing line, or to defeat all counter-attacks which may arise. Some batteries are meant to accompany the attack; advancing in *échelon*, they fire exclusively on the hostile infantry or on obstacles interfering with their own infantry's advance. Attempts should be made, as far as possible, to operate from the flanks against the enemy. The action of field artillery on earthworks being insignificant, artillery will not endeavour to destroy them, but will devote itself to action against the infantry occupying them; the employment of guns with curved fire is therefore the most useful.

In the defensive, the best positions are reserved for the artillery, and very great importance is attached to its defilade. The artillery endeavours to catch the hostile artillery at the moment of its deployment, so as to inflict the greatest possible losses on it; it should therefore be placed under such conditions that its concentrated fire may readily be brought to bear on the probable positions of the hostile artillery. The artillery is under the immediate orders of the division general or of the detachment commander, and the senior artillery officer commands that arm. On him, under instructions from the commander of troops, devolves the issue of instructions to the artillery brigade-division commanders, he allots their positions to them, and gives them orders with regard to opening fire and changes of position. When several divisional artillery units are massed in the same action, they are placed under the orders of the same commander. The artillery commandant, so as to be thoroughly conversant with the intentions of the commander of the troops, accompanies the latter during his reconnaissance, and receives from him a general indication of the zone to be occupied by the artillery; he then partitions this zone and the objectives amongst his brigade divisions. As has been already said, the artillery keeps itself out of the zone of infantry fire. The ammunition wagons carrying common shell are most carefully placed under cover. Whilst the artillery remains under cover while waiting, everything is prepared so that fire may be opened at once when required. An officer is sent in advance to survey the ground and the situation. Batteries are not always placed in line; they are always *écheloned*, with intervals of at least the front of a battery in width and two fronts of a battery in depth, either towards a flank when they are on the right or left of the line; or checkerswise; the distances, intervals, and the number of batteries of each *échelon* are variable. In changes of position a distinction is made with regard to those carried out in order to escape the hostile artillery's aimed fire; these changes should be at least from 700 to 800 yards. They are made by *échelons* of batteries or of brigade-divisions. The distance between *échelons* should be such that two *échelons* should not be hit by the bursting of the same shell (consequently at least 200 yards). To brigade-division commanders is entrusted the detailed assignment and distribution of objectives amongst their batteries. The artillery commandant organises the service of observing the effect of the firing by means of scouts sent forward long distances, and consist of an officer with 2 to 4 men.—*La France Militaire*.



FRANCE.—*Law of the 21st March, 1905, on Army Recruiting.*—Military service is compulsory on all, and lasts for a period of 25 years, viz. :—

Regular Army	-	-	-	2 years.
Reserve of Regular Army	-	-	-	11 „
Territorial Army	-	-	-	6 „
Reserve of Territorial Army	-	-	-	6 „

Every year, at the beginning of January, the Mayors arrange the census lists of young men who attained the age of 20 years during the preceding year, and who are domiciled in one of the communes of the Canton. Everyone entered on them can, up to the 15th February at latest, furnish proof of any infirmities or illness rendering him unfit for military service. The declaration is made at the town hall of his commune, and is supported by proper certificates. Young men omitted from the census lists of the preceding classes, are entered on the census tables of the class which is called out after the omission has been discovered, and they are liable to all the obligations incumbent on them as if they had been entered at the proper time. At the same time, they are finally free from all obligation to serve at the age of 50 at the latest.

The Council of Revision classifies young men in 4 categories, viz. :—

1. Fit for the combatant branches.
2. Fit for the non-combatant branches.
3. Put back.
4. Unfit for all service, combatant or non-combatant.

Those put back and passed as fit the following year for service in the combatant branches have to serve for 2 years in those branches; the remainder are enrolled in the non-combatant branches or exempted.

In peace time if two brothers are inscribed the same year on the census lists, or form part of the same calling to the colours, if there is disagreement between them, the younger of the two is, on his application, only enrolled after the obligatory period of service of the other brother. The man who, at the time the Council of Revision is sitting, has a brother already serving with the colours, is also not enrolled, on his application, until after the latter has completed his service. In peace time respite from enrolment, renewable from year to year up to the age of 25, may be granted by the Council of Revision to young men who apply for it to the Mayor of their communes after the publication of the census lists. For that object, those interested must prove that it is of the utmost importance that they should not at once be taken from their work, on account of their being either the support of the family or on account of their studies, or their apprenticeship, or on account of their agricultural, industrial, or commercial pursuits, either on their own or their parents' account, or on account of their residence abroad.

The families of those young men who, before their departure to the colours, were sole supporters of their families, may, in peace time, receive on their application a daily allowance of 65 centimes whilst those young men are serving with the colours. The number may not exceed 8 per cent. of the contingent. This allowance may also be granted to the families of soldiers who, whilst still serving with the colours, prove that they are the sole support of a family. Their number may not exceed 2 per cent. of the contingent. The applications should be addressed to the Mayor of the commune where they reside.

Men belonging to the Reserve of the Regular Army are obliged to take part in two manœuvres, each extending over a period of four weeks. Men of the Territorial Army are obliged to take part in drills for a period of two weeks. Men of the Territorial Reserve are liable to be called up for review. Such men who are told off to guard lines of communication and important points on the coast, or who are employed to assist the artillery in fortified places or works on the coasts, may be called out for special drills, not exceeding 9 days, during the total period of 6 years passed in the Reserve of the Territorial Army. Reservists who are fathers of 4 living children have the right to be passed definitely into the Territorial Army. The father of 6 living children is entitled to be passed into the Reserve of the Territorial Army. Soldiers who have completed at least 3 years' service, or who have served in the Colonies, are exempted from one of the two drill periods in the Reserve.

### ENGAGEMENTS AND RE-ENGAGEMENTS

#### I. *Voluntary Engagements.*

*Home Troops.*—Voluntary engagements may be contracted for the infantry, cavalry, artillery, engineers, and transport for periods of 3, 4, and 5 years. Engagements for 3 years are received from the 1st February to the 31st March, and from the 1st October to the 30th November, without limit as to numbers. Those for 4 and 5 years are received throughout the year without limit as to numbers. Engagements for 3 years will continue to be received up to the putting into force of the law of the 21st March, 1905, under the conditions laid down by the law of the 15th July, 1889. Engagements for 4 and 5 years carry with them the right to the high rate of pay, from the commencement of the 3rd year's period of service with the colours, and to a bounty proportional to the time the soldier engages to remain with the colours in excess of the three first years. In order to contract a voluntary engagement, the candidate must be at least 18 years of age, and fulfil all the physical conditions laid down for the branch of the service. The conditions of height vary, for the different branches of the service, from 5 feet 2½ inches to 6 feet 2½ inches, with the exception of the infantry, for whom there is no minimum or maximum limit of height. Tailors, bootmakers, saddlers, harness makers, and armourers, are admitted without respect as to height.

*Foreign Legion.*—Foreigners enlisting should be at least 18, and at most 40 years of age, and be 5 feet 2 inches in height. Frenchmen belonging to the reserve of the Regular or of the Territorial Army, are permitted to contract, as foreigners, engagements for 5 years with the Foreign Legion. They must produce: 1st, their small book or release from the Service; 2nd, a certificate from the Mayor of their last place of residence, proving the identity of the man, and if he is single, married, or a widower, and, in the latter cases, the sex and age of each of his children. Frenchmen who have not fulfilled their military obligations may, exceptionally, be authorised by the War Minister, to enlist, as Frenchmen, in the Foreign Legion.

*Native Troops.*—Every native may enlist in a native corps provided he is at least 17, and at most 35 years of age, and of the required height. Every young man desirous of enlisting must procure the following documents on unstamped paper, viz.: a birth certificate; consent of father, mother or guardian, if the candidate is under 20 years of age; certificate

of good morals; consent of the commander of the corps he desires to enlist into. The candidate must then go, with these documents, to the commandant of the recruiting office of his district, to undergo a medical examination and to receive a certificate of fitness. He may also go direct to the commander of the corps in which he wishes to enlist to obtain his certificate of physical fitness. The enlistment is then concluded at the town hall of the principal place of the district.

*Colonial Troops.*—Voluntary enlistments are received for colonial troops: after the completion of 19 years of age, for 5 years; after the completion of 20 years of age, for 4 years; and after 23 years of age, for 3 years. At the same time, pupils from the military preparatory schools, and young men of special professions (tailors, harness-makers, shoe-makers, farriers, musicians, etc.), may enlist at 18 years of age for 5 years, as regards the former, and for 3 years as regards the latter. Voluntary enlistments of 4 or 5 years entitle the recruit to a bounty of 100 and of 200 francs respectively at the time of starting to join. The consent of the commander of the corps is necessary, whatever the period of enlistment may be. In addition, young men recently entered on the census lists may, from the 15th January to the 1st April, of the same year, contract an engagement valid until the release of the class to which they belong.

## II. *Re-engagements.*

Soldiers of all branches of the Service, whether home or Colonial troops, may contract re-engagements for 1 year, 1½ years, 2 years, 2½ years, and 3 years. Private soldiers can only enter on a re-engagement of 1 year for the Colonial troops, the Paris sapeur-pompier regiment, the mounted branches (cavalry and artillery), and for a certain number of frontier district corps selected by the War Minister. Soldiers belonging to Colonial corps, the regiment of sapeur-pompier, and non-commissioned officers belonging to home troops may, in addition, re-enlist for 4 or 5 years. Every soldier actually serving may re-engage if he has 1 year's service in the home and 6 months' service in the Colonial troops. The same option is given to discharged soldiers who have left the Service for less than 2 years, if they desire to serve in the Home Army, and to men of less than 36 years of age if they wish to serve with the Colonial troops. Re-engagements are renewable up to a total period of 15 years for non-commissioned officers of the Home Army, for soldiers of all ranks of the Colonial Army, and for the sapeur-pompier regiment, and for 5 years for corporals, lance-corporals, and men of the Home Army. Every soldier remaining in the Service for a period longer than the legal one is entitled to a high daily rate of pay from the commencement of the 3rd year of his service with the colours. Every soldier of the Home Army who enlists or re-enlists so as to bring his period of service up to 4 or 5 years, is entitled to a bounty proportionate to the time he engages to pass with the colours in excess of the first 3 years. In the Colonial Army the bounty is payable at the commencement of the 3rd year of service. Non-commissioned officers of all branches of the Service remaining with the colours in excess of 5 years are entitled to a special rate of pay at the commencement of the 6th year of service. Soldiers of all branches of the Service who leave the colours after 15 years' effective service are entitled to a pension proportionate to the length of the service; after 25 years they are entitled to a retiring pension.



**GERMANY.**—*German Colonial Troops.*—With the development of her Colonies and the extension of her *Welt Politik*, Germany has for some years been obliged to permanently maintain a large number of Colonial troops, and in addition to despatch considerable forces beyond the seas—at first to China in 1900, and more recently to South-West Africa, to quell the native revolt, which is still in progress. In the following summary, borrowed principally from the *Internationale Revue über die gesamten Armeen und Flotten*, no account is taken of the China Brigade of Occupation, which will no doubt shortly return to Europe, nor of the considerable reinforcements sent to German South-West Africa to quell the insurrection, to which allusion has been made.

*Troops of German East Africa* were raised by a law of the 23rd March, 1891; in the 1905-6 Budget a sum of 2,322,000 marks was provided for it, plus 479,500 marks for the flotilla. These troops are for the most part natives, and include 220 Europeans, viz.:—47 officers, 26 doctors, 22 military officials, 125 non-commissioned officers, and 1,471 natives, of whom 5 are officers and 126 non-commissioned officers; the whole are divided into 12 companies. The Governor also commands the troops.

*Cameroon Troops* are organised by a law of the 9th July, 1895, and are either about to be, or have already been, increased by 2 companies; not including these, the expenditure for 1905-6 amounted to 1,158,000 marks. They consist of a staff, 8 field companies, and 1 dépôt company and an artillery detachment. The effective is 145 whites, or 40 officers, 11 doctors, 13 military officials, 81 non-commissioned officers, and 1,170 natives, of whom 58 are non-commissioned officers and 38 bandmen.

*Togo* has only a police force; it is only mentioned here because they are included in the chapter on Colonial expenditure. The police force costs 104,000 marks a year, and consists of 4 white non-commissioned officers for 150 natives.

*South-West Africa.* — Contrary to those of the above-mentioned Colonies, the troops of German South-West Africa are entirely European. Organised according to the law of the 9th July, 1895, they cost 2,407,327 marks a year, and normally consist of: 30 officers, 12 doctors, 11 military officials, 100 non-commissioned officers, and 453 men. Their reinforcement by the calling to the colours of European Colonists is provided for, and was carried out at the time of the present insurrection.

*Kiao-Tchau.* — The troops here are also European. The 1905-6 Budget provided 2,711,000 marks for their maintenance. They consist of 1 marine infantry battalion, 1 of marine artillery, a naval gun detachment, a naval detachment, and arsenal detachments, which are supplied from the dépôts in Europe. The average effective present in the Colony is: 73 officers, 22 military officials with commissioned rank, 300 non-commissioned officers, and 2,292 men (naval and military included). For the past two years it is believed that the progressive organisation of native infantry and naval units officered by Europeans has been proceeded with. The other German Colonies have merely a police force with European officers. Their effective is as follows: *New Guinea*, 7 Europeans, 282 natives; *The Carolines*, 3 Europeans, 75 natives; *Marshall Islands*, 13 natives; *Samoa*, 2 Europeans, 60 natives.

In conclusion, the following table gives the effectives of the 4 Colonies most amply provided with troops, fit at the present time for war:—

	European.						Natives.	Grand Total.
	Officers.	Doctors.	Military Officials.	N.C.O.s.	Men.	Total Europeans.		
German East Africa ... ..	47	26	22	125	—	220	1,471	1,691
Cameroons ... ..	40	11	13	81	—	145	1,170	1,315
German South-West Africa ... ..	30	12	11	100	453	606	—	1,212
Kiao-Tschau ... ..	73	—	22	300	2,292	3,374	60	3,434
	190	49	68	606	2,745	4,345	2,701	7,652

*Wireless Telegraphy in South-West Africa.*—In the beginning of the Herero uprising, the German troops used heliographs for signalling whenever the existing wire connections failed. This service was satisfactory in clear weather, except for the drawback that the communicating stations had to “seek” each other beforehand—a feat possible only in case the approximate position of each is known.

It was accordingly decided to use wireless telegraphy. The Gesellschaft Für Drahtlose Telegraphie, of Berlin, supplied the apparatus, which was mounted by the aerostatic battalion. Three stations were organised, viz., two wagon detachments and one cart detachment, the staff including four commissioned officers, four non-commissioned officers, and twenty-seven men. Gas balloons were used to raise the antennæ.

These stations were first used in practical operation in connection with the attack made against the Hereros near Waterberg. Each of the three detachments was provided with a wireless station, and though the men were not very well trained in the limited time allotted, the troops nevertheless succeeded in maintaining a permanent mutual communication. For transmission up to about 100 kilometres (62 miles) recording telegraphs were used, whereas for greater ranges up to 150 kilometres (93 miles) the Morse signals were received by telephone. The latter course was exclusively adopted later on. While the antennæ were 200 metres in length (656 feet), the men did not always succeed in raising the full length of the wire, the drift of the balloon being mostly too small, owing to the considerable altitude of the ground. This obviously decreased the range of the stations. The dryness of the air and the frequency of atmospheric discharges, as well as storms of whirlwinds, were other unfavourable factors. Moreover, the dry cells were damaged by the sudden changes in temperature. The projectiles of the enemy obviously were frequently directed against the balloons, which marked the position of the German troops. The balloons, on the other hand, rendered good service to the German detachments, marking as they did the direction of marching.

The whole of the wireless telegraph plant was temporarily placed out of service in October, 1904, in order to allow for the necessary preparations before proceeding to the new theatre of war situated southward, some time being occupied in repair work. Three other outfits had

arrived in the meantime, which, however, were not provided with skilled operators.

As regards the relative merits of the various types of station, the wagon stations are said to be more readily transportable than the old cart stations, which, owing to their great height, are apt to tilt, and do not enable the men to ride on them. On traversing some inundated ground the wagon stations readily passed through the water, whereas the cart stations had with considerable difficulty to be transported across a railway bridge.

Wireless telegraphy has thus proven itself a most trustworthy and useful means of communicating information in warfare, though in the present case any disturbances on the part of the enemy were excluded, for the Hereros were not provided with any similar apparatus. It should, however, be remembered that the difficulty arising from atmospheric influences is far greater in that part of Africa than either in Europe or America, while the country is absolutely devoid of any resources for repairing the apparatus.

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*A New Type of Shell.*—The experience of the Russo-Japanese War has demonstrated that the really useful effect of field artillery projectiles, both as regards shrapnel and common shell, have been greatly exaggerated. The bullets of the former are neutralised by the slightest elevation of the ground, and its destructive power against masonry, field works, and obstacles is insignificant; shrapnel is only useful, as a matter of fact, against troops—standing up and in motion. Common shell is efficacious against material obstacles, but its small radius of action renders it but little destructive against the *personnel*, especially when lying down or sheltered, as, owing to the irregularity of their shape, its splinters do not retain their velocity. Finally, neither the one nor the other constitute a type of shell for all purposes, and the Japanese were obliged to use both sorts simultaneously against all kinds of objectives without obtaining satisfactory results.

This lesson was not lost sight of, and endeavours have been made in Germany, according to the *Kriegstechnische Zeitschrift*, to set up a new type of shell, combining, to a great extent at least, the properties of shrapnel and common shell. This shell is provided with a double-action fuse; it is, in short, a shrapnel with a bursting charge, thus combining a systematic dispersion of its splinters with destructive powers, and in addition a substance giving out a thick smoke is mixed with the explosive, which makes the observation very easy.

The shell consists of a steel casing, like the present shrapnel, containing segments whose systematic breaking is ensured by breaking lines cut in them. The explosive charge is placed almost in the middle of its length, and so disposed as to project a portion of the segments in front, and to laterally disperse the remainder. When bursting, the projectile gives out two cones of dispersion, the anterior one with an opening of 24°, and the lateral cone with one of 120°. The density of the segments is very great, especially in the centre of the cone, whilst the splinters of the casting contribute to increase the space of zone covered laterally.

According to the *Kriegstechnische Zeitschrift*, this new type of shell has been experimented with both in firing and in transport for long periods, and these experiments have demonstrated that it was absolutely safe to handle and kept well. It gave excellent results when using the



double-action fuse against artillery and against obstacles, whilst against infantry its effect was satisfactory. With regard to ranging, the smoky substance mixed with the charge greatly facilitated its practice. This projectile should be especially efficacious against the *personnel* placed behind an obstacle, because it does not burst until it has gone through the latter.

*Recruiting Statistics for 1904.*—The number of young men reaching the age for military service amounted to 487,335. By adding those put back from 1903 (314,615), from 1902 (250,936), and from previous classes (35,915), it will be seen that the total of the recruiting resources amounted to 1,088,801 men, who were classified as follows:—

	Men.
Unfit for service	34,961
Not allowed to serve (convicts, etc.)	1,092
Put back, emigrated, in excess	603,478
Enrolled in the Territorial Army { Combatant (a)	206,709
Non-combatant (b)	3,842
Enrolled in the Navy	8,411
Assigned to the Recruiting Reserve { Army	87,853
Navy	1,451
Attached to 1st Levy of Landsturm	110,300
Entered as Volunteers in the Army (c)	*29,042
„ „ „ Navy	*1,662
Total	1,088,801

The number of young men who enlisted in the Army before reaching the military age amounted to 21,163.\* By adding this last number to those mentioned under the figure (a), (b), and (c), a total contingent of 260,756 men will be arrived at, enlisted during 1904, and showing an increase of 3,947 men over the contingent for 1903.—*Bulletin de la Presse et de la Bibliographie Militaires, La France Militaire, and Scientific American.*

ITALY.—*Manœuvres for 1906.*—This year's manœuvres do not call for much remark. So-called Royal Manœuvres of 2 army corps, operating against one another, will not take place, either because the manœuvres planned on a large scale which took place in 1903 and 1905 (between which came the Army and Navy manœuvres at Naples) were adversely commented on by the greater portion of the Press as "soldiers' pic-nics," or because, from motives of economy, they can only be held every second year. At the same time, army corps, adjacent to one another in their districts, are permitted to arrange for one combined manœuvre between themselves, and, "should a favourable opportunity occur," even to organise scouting and reconnaissance by the cavalry beyond their own army corps borders. Special grants for these manœuvres, however, are not forthcoming. According to arrangements, only manœuvres inside army corps will take place, the plans for which (field firing, manœuvre camps, or field manœuvres) must depend on the sums granted to individual corps and the period for which the reserves are called out. The Reservists will be taken from the 1881 class. In addition, a 17

\*In these numbers are included one-year Volunteers.

days' manœuvre camp for the mobile Militia will be held in the district of the Ist (Turin) Army Corps. A combined assembly on a war footing of the Landwehr with the troops of the first line will, therefore, not take place as in the last three years. Finally, only an 8 days' manœuvre for Alpine Troops in the IIIrd (Milan) Army Corps district, cavalry manœuvres in the Vth (Verona) Army Corps district, and a manœuvre camp of 4 cavalry regiments at Cupua are provided for.

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*Changes in the Condition of Non-commissioned Officers.*—The Italian Government is about to introduce some radical changes in the legislation at present regulating the status of non-commissioned officers. At the present time the number of non-commissioned officers who have completed 12 years' service and who are candidates for civil employment, is such that it is impossible to gratify their wishes without making them wait for many years. Under such conditions the cadres are encumbered with men whose sole desire is to leave the Army, and whose zeal has, consequently, almost disappeared.

In order to remedy this state of affairs the Government proposes to grant non-commissioned officers such advantages in the Service itself, that, instead of seeking civil employment, they will prefer to remain with the colours until they are entitled to a pension (after 30 years' service), or until they have been promoted officers. To attain this object the Government intends to completely remodel the various non-commissioned ranks (with the exception of the Royal Carabiniers), and to create the rank of sergeant-major in each company, squadron, and battery, and to reserve for these sergeant-majors a quarter of the vacancies which occur in the rank of sub-lieutenant. These non-commissioned officers will be promoted to commissioned rank without having to undergo the examinations for admission into the Military Academies. The following is the scheme as laid down by the War Minister :—

*Art. I.*—The following is the classification of grades of non-commissioned officers :—

1. Sergeant, quartermaster-sergeant, pay-sergeant, lance-corporal of the Royal Carabiniers.
2. Corporals of the Royal Carabiniers.
3. Sergeant-major of company, squadron, or battery.
4. Sergeant-major of the Royal Carabiniers.

*Art. II.*—Nothing is changed with regard to non-commissioned officers of the Royal Carabiniers.

*Art. III.*—The rank of company-sergeant-major is given, one-third by selection and two-thirds by seniority, to sergeants who have the necessary qualifications for filling the post of first non-commissioned officer of the company, squadron, etc., and certain other employments which will be determined by the regulations.

In peace, no sergeant can be promoted company-sergeant-major who has not at least 5 years' service and 4 years in the rank of sergeant.

Cavalry trumpet-majors, fencing masters, and riding instructors fit for promotion will be promoted squadron-sergeant-majors when, in the corps to which they belong, a sergeant junior to them has been promoted to that rank. In any event they will be promoted to the rank of squadron-sergeant-major after 10 years' service.

*Art. IV.*—The following is the daily pay for each rank :—

Sergeant, quartermaster-sergeant, and pay-sergeant, 2·02 lire (1s. 7d.).

Ordinary sergeant, 3·00 lire (2s. 4d.).

First sergeant, 3·30 lire (2s. 6½d.).

Sergeant-major, 3·50 lire (2s. 9d.).

*Art. V.*—The special course, organised at the Military School at Modena for non-commissioned officers desirous of being promoted officers in the different arms, is abolished. A quarter of the vacancies occurring annually in the subaltern officers' cadres is reserved for company-sergeant-majors.

*Art. VI.*—The limit of age of 28 years, fixed by the present law for the nomination of non-commissioned officers to the rank of sub-lieutenant, is increased to 32 years. The conditions under which non-commissioned officers can be promoted officers are as follows :—

1. Have at least 8 years' service, of which 3 have been in the rank of company-sergeant-major.
2. To have been noted as "Very good" for 3 consecutive years, and to have successfully passed through a theoretical and practical course under conditions to be determined by regulation.
3. To have been passed, both from an intellectual and physical point of view, as fit for the rank of sub-lieutenant by the corps Board of Promotion. The opinion must be confirmed by the various higher authorities.
4. Proof that the married company-sergeant-majors have the minimum annual income laid down for officers (this amounts to 4,000 lire, or £120, including pay).

*Art. VII.*—Sub-lieutenants, who have been company-sergeant-majors, are promoted lieutenants after 4 years' service in the former rank. During peace time they can never reach the rank of captain. Trumpet-majors, fencing and riding masters can not be made officers.

*Art. VIII.*—Re-engagement with extra pay is abolished. In order to obtain civil employment it will no longer be necessary to have re-engaged with extra pay. Every 5 years non-commissioned officers will have their daily pay increased by 0·35 lire (3½d.).

*Art. IX.*—Retired non-commissioned officers, without being entitled to a pension, will receive a bounty of 500 lire (£20) if they have completed 6 years' service. The non-commissioned officer promoted to officer will receive a bounty of 500 lire in the mounted and 400 lire in the dismounted branches of the Service.

In his report the War Minister points out that the new law on the status of non-commissioned officers will involve no extra charge of the Budget; on the contrary, the Government will effect a slight economy. In spite of that, old non-commissioned officers will benefit, and the advantages accorded them will induce them to remain in the Army rather than seek civil employment.

On examination of this scheme a remarkable fact is made clear, viz. : that the present tendency in Italy with regard to non-commissioned officers is diametrically opposite to those existing in France. Whereas in the latter country the new law on recruiting obliges non-commissioned



officers to leave the Regular Service after 15 years, in order to take up civil employ, in Italy they endeavour to retain non-commissioned officers up to 30 years' service and to deprive them of civil employment.—*Militär Wochenblatt* and *La France Militaire*.

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UNITED STATES.—A *New Army Signalling Apparatus*.—Signalling from station to station is not the easy matter it seems. In order that an object on shore used as a signal may be seen by the observer on a tug 9,000 yards away, there must be a strong contrast of colour between the signal form and its background, else the form cannot be distinguished from the background. First of all, then, this contrast of colour must be secured. How the obstacle may be overcome is pointed out by Captain Thomas E. Merrill, of the Artillery Corps, in an article published in the *Journal of the Military Service Institution*. Broadly speaking, his apparatus is constructed very much like a huge window-shutter, inasmuch as it depends for its effect on the simultaneous movement of a number of hinged boards.

Captain Merrill finds that the objects used to represent signals must be all either white or black, and their background of the opposite colour. The easiest background to provide is a dark one. A grass or earth slope, while of course not black, will generally answer the purpose. Then the signal forms must be white. A white surface in shadow shows dark at long distances. Therefore, in the general case it is necessary to use a surface whose face toward the observer is so inclined as to not be in shadow.

At Fort Heath a plane surface 15 by 40 feet, with a fall of 15 feet in the 40, has been found to work very well when not in shadow, and on account of its inclination, fairly well even when in shadow.

The plane surface consists of inch boards each a foot broad and fifteen feet long, extending across stringers that run parallel with the long direction, there being forty of these boards. Every fourth board from the top is hinged to the preceding board, and all the hinged boards are so arranged by a system of levers and counterweights that all can be simultaneously raised to a vertical position or lowered to a position where they form part of the plane surface.

The plane surface is painted white. The underside of the hinged boards and the stringers under the hinged boards are painted black. When the hinged boards are vertical the apparatus looks black from the front because each hinged board covers the preceding white boards to such an extent that they are invisible to an observer situated to the front and on a slightly lower plane.

The operation of the apparatus resembles that of the heliograph. Normally the white surface is in view. The observer on the tug watches the white surface. When the signal is to be sent the white surface disappears, due to the raising of the hinged boards. The apparatus has been found to work almost as rapidly as the heliograph and—an important advantage—is easily operated by one man.

The appearance presented to a distant observer when a message is being sent is as though a vertical square 15 feet on a side changed uniformly throughout its entire surface from black through all the intermediate shades to white, and *vice versâ*. At a distance one does not see, as the square changes from black to white, a succession of bands

of white increasing in width until the entire surface is white, as one might at first thought expect, but just a uniform change in colour over the entire square. For artillery target practice a single letter would indicate a pre-arranged command.

The signal apparatus described was used with complete success for the entire sub-calibre and service practice of Forts Banks and Heath during the fall of 1905. During the service practice the range of the tug varied between 4,000 and 7,000 yards. The practice lasted from about 8.30 a.m. until about 4 p.m. the same day. It is safe to say that at least one hundred signals, each a single letter, were sent during the day. Not one was repeated, and not one was misunderstood. — *Scientific American*.

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## CORRESPONDENCE.

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### PEACE PREPARATIONS FOR OVER-SEA EXPEDITIONS.

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*To the Editor of the JOURNAL OF THE ROYAL UNITED SERVICE INSTITUTION.*  
SIR,—

Colonel Callwell's new book on "Military Operations and Maritime Preponderance" might well be treated as the text-book on the functions of our Army in our next great war. He has shown in it how the Army of a great maritime Power can, and should be, used to co-operate with the Navy. Whether our Army is or is not yet of a strength sufficient to undertake such expeditions against our powerful neighbours is beyond the scope of this paper; but, assuming that an over-sea expedition is a likely contingency in such a war, ought we not to make full preparations to meet it?

To be really helpful to naval strategy, military over-sea expeditions should be dependent as little as possible on naval aid for their execution. Naval escorts will be required for any fleet of transports, and many of the boats and steam pinnaces of these war-vessels will be available for aiding in the disembarkation, except when there is immediate danger of a naval attack. The possibility of such an attack must never be lost sight of, and hence it is all the more desirable that transports should not be too dependent on the assistance of the Royal Navy when landing.

The allotment of naval *personnel* "to transports" assumes a different aspect. It would obviously be unwise for the Admiralty to lock up in transports seamen who might be required as fighting-ships' crews at any moment. If, therefore, future military over-sea expeditions are to necessitate the employment in transports of any considerable number of seamen, it is most unlikely that such expeditions will be undertaken until the Navy has attained almost complete maritime ascendancy. This is contrary to the lessons of past wars exemplified in Colonel Callwell's book, which teach the principle that "early" co-operation between the two Services is very desirable.

There is an additional reason why the transports should be prepared to start soon after the commencement of hostilities. It seems quite possible that an Army in transports might be used as a bait for a hostile battle-fleet. It would be a great inducement to an enemy to bring his ships out of harbour, if there were a chance of finding transports at sea. It is quite likely that public opinion would force an admiral to risk battle, even

though his fleet were much inferior, as soon as it became known that a military expedition had started from our shores. Our Government would, no doubt, decide according to the circumstances of each case what superiority in naval forces would be required to justify the despatch of such an expedition. It war, risks must be run, and with a fair chance of success in sight the Army would doubtless be prepared to accept them.

The two main arguments urged against the employment of an over-sea expedition seem to be:—

1. The danger which would be incurred by a fleet handicapped by mothering a mob of transports.
2. The great risks which a mass of transports would run in moving over the high seas, if attacked by the enemy.

As regards (1), we have presupposed that our fleet is superior, and that it wishes to meet the enemy in battle. Does the handicap of the transports outweigh the advantage of the chance of bringing on an engagement? This is entirely a naval question.

As regards (2), the danger to transports appears to be entirely from torpedo vessels and submarines, as the protection of our fleet should suffice against attacks of larger vessels. At first sight it appears appalling to picture a crowd of transports attacked by some destroyer divisions in the dead of night; but is the risk as great as we imagine?

We may assume that torpedo craft will not be able to approach the transports in daylight. If we postulate that it would be wasteful to employ torpedo vessels to attack merchant-ships, it will be also true that they should usually confine their attention to the warships accompanying the transports rather than to the transports themselves; for, though the danger in attacking the former would be slightly greater, the possible destruction of a battle-ship would more than compensate the extra risk.

Perhaps the greatest objection to these expeditions is that, though a battle fleet at night has to depend on secrecy and mobility rather than on gunfire, the presence of a large number of transports unaccustomed to night manœuvring would prevent the attainment of secrecy, on which safety so much depends. Thus, the transports would not only render themselves liable to attack by night, but would also disclose the position of war-ships in the vicinity—a much more dangerous result.

If this risk is overwhelming, no over-sea expedition would seem to be possible, since one can hardly imagine any form of blockade which would ensure that no torpedo craft should leave the enemy's ports.

It might be found wise to train our troops to disembark at night, so that the dangerous part of the voyage, *i.e.*, the portion within 100 miles of the enemy's coasts, should be undertaken in daylight.

We may assume that our transports will be safe outside a radius of 300 miles of the enemy's bases or temporary base, since the defence of our ports is founded on this assumption. Moreover, the risk of meeting hostile torpedo vessels is not great until we approach within 150 miles, unless the enemy has very precise information of our objective; without such information the boats would have small chance of meeting the transports at a distance, and would probably be away when most required.

But it may be urged that the real danger only commences when the transports have reached their destination—when the enemy can locate their position and make detailed plans for their attack. If this objection is considered vital, over-sea expeditions will be possible only against very eccentric objectives, as no state of sea power is likely in which this form of attack can be avoided; but is this objection insuperable?



It may be granted that our battle fleet cannot remain near the hostile coast at night, but the enemy's fleet will be unlikely to attack at night if we have a superiority in destroyers; and thus again the only danger to our transports will be from torpedo vessels.

This danger is real enough, certainly, but in places where the rise and fall of tide is small there seems little reason why transports should not be anchored, so that, if torpedoed, they may merely ground. The whole question of over-sea expeditions resolves itself into whether we are or are not willing to lose a proportion of our transports; and as there is little reason why the loss of the ship need entail loss of life or stores on board, the game seems worth the candle. We must harden our hearts. Unless this is the principle underlying our strategy, the idea of a striking force would appear to be of little value. If it is so, we certainly need more practice of details before we are fit to undertake over-sea expeditions.

We see, then, that it is right that our Army should be ready to co-operate with the Navy soon after the declaration of war, and that for this purpose the Army must prepare to carry out certain duties, which have a naval aspect in peace, but which in war the Navy would be too busy to undertake. It may be assumed that naval transport officers will be forthcoming.

Among these duties which the Army might reasonably be expected to take over, the following are the most obvious :—

1. The performance of those ship duties which are not routine work for the ordinary merchant-ship's crew.
2. The stowage of baggage, animals, and wagons, so that they may be forthcoming in the order required on disembarkation with the minimum expenditure of time and labour.
3. Signalling at sea.
4. The launching, manning, and making fast of horse-boats, etc.
5. The slinging of horses, the handling of derricks and of donkey-engines (for it would be unwise to depend on the ordinary crew in these matters, as they may be unaccustomed to live-loads, and may object to the extra strenuous work which will be necessary as soon as disembarkation begins).
6. The construction of piers and landing places.
7. All beach duties.

The majority of these duties could be undertaken by troops with only a short preliminary training; others, such as working engines and making piers, would require more experience.

There is another class of specialists which merit attention : "Trained raiding parties."

It is usually assumed that the Navy would undertake all minor raids, and there are many advantages in such a course, *e.g.* :—

1. The Navy are themselves usually most concerned in such raids, and therefore know best what to aim at, and are least likely to do anything which may afterwards hamper naval strategy. As, however, we pre-suppose close co-operation between the two Services, this argument has no great weight.
2. The Navy are more likely to be on the spot when such raids are contemplated, and this is certainly important.
3. The raiding party, if carried in a war-ship, have some protection on the high seas, though a fast, nearly unarmed vessel, which did not attract attention, might be better for the object in view.

On the other hand, it may be pointed out that:—

1. As the greatest dangers occur after a landing has been effected, land forces with sea training seem more suitable than sea forces.
2. The objectives of attack must be studied on shore, and also the best way of carrying out the object, whether a demolition or a sudden assault be contemplated.
3. Special training—cliff climbing, for example—may be necessary, and needs practice on land.
4. At the time when such raids are being planned, the naval forces are likely to be comparatively more precious than their military *confères*, and the latter are therefore more available for risky adventures.
5. As before mentioned, a vessel unsuited for purely naval work may be best for raid purposes.

The effect of such small raiding expeditions may be out of all proportion to the risks incurred. Recent experience has shown that important signal stations, docks, canals, and even the armament of coast-defence works, in which attack is expected, are often vulnerable when attacked by a daring, resourceful enemy.

A *personnel* with the highest pitch of training is required for such raids. The raiding party should be able to perform the following tasks:—

- a. *Naval*.—Handle a small boat in bad weather; pick up bearings and recognise landmarks in the dark or in a fog; land on a dangerous coast, if necessary, by swimming, and be able to take explosives, etc., with them when they do so.
- b. *Military*.—Climb up difficult cliffs; find their way in the dark, moving noiselessly; scale obstacles—walls, iron palings, etc.; recognise readily the vulnerable portions of the object of attack; carry out hasty demolitions. . . .

The ideal man in such a party would be North Sea pilot, Channel swimmer, mountain guide, crack burglar, trained gunner, and expert sapper, all in one! Some peace training appears desirable!

It would be useful if he were also a trained scout and accustomed to reconnoitre landing places and the country immediately inland. The last war has shown that awkward landing places are often the best, and has proved the great utility of small reconnoitring parties, who land at night.

Although in a great European war, circumstances are likely to be different in many respects, we must conclude that for a bold general the number of points open to attacks from the sea is much larger than we had formerly considered to be the case. The effect will be to give an increased importance to raids, since an enemy cannot now afford to disregard a landing on his coasts, simply because the point of disembarkation does not appear to offer great facilities for a landing in force. Should he pay no attention to such a raid, he might find that he has allowed an advanced party of the enemy to secure a position without opposition, which will cover a large disembarkation behind. Hence a practised raiding force would be useful in making feints which will add to the chances of success in over-sea expeditions, and also in making a preliminary landing to seize a covering position, which is so important a matter when landing on hostile coasts.

The following is a mere outline of the scheme of preparation suggested:

A vessel of suitable size should be bought and a permanent staff, including a navigating officer, should be appointed. This vessel should be

of the usual transport type, but will require neither powerful engines nor elaborate fittings other than those already in stock for transports. Its purchase would not be expensive. The great thing is to have a headquarters, at which the results of experiments can be collated and general principles laid down.

To this vessel units should be sent in turn to undergo a course of instruction (if possible from all arms simultaneously). Disembarkations should be made all round our coasts; but in winter it might be necessary to use sheltered bays.

If the permanent staff arranged skeleton schemes for large disembarkations, of which the actual landing formed merely a part, and if the restrictions entailed in handling a large force were strictly enforced, the Army would certainly gain invaluable war experience, which would prove a relief to the Royal Navy. Probably at least a division could be trained in one year.

There are certain specialists who require longer training. Selected men from every unit to be trained during the year might undergo a two months' preliminary course in certain special duties.

The training of raiding parties deserves minute attention. It would appear only possible to teach men these arduous duties if their whole time be devoted to them. A new unit should therefore be formed, a *corps d'élites*, in which officers and men would require most careful selection. This unit should be attached to the transport-ship, though often acting independently of it.

Practice in minor raids would show up many vulnerable points on our coasts. Such raids might afford most useful experience to our coast-defence troops, if the exercises were not restricted too much in time and space.

A large establishment would not be required for such a unit.

Not only should the actual technical work of such raids be learnt, but a study of foreign objectives should be made. For this purpose there must be free communication with the Naval and Military Intelligence Departments. Arrangements should be made that one officer at a time may be away from the unit to examine actual objectives abroad. Each officer in the unit would be responsible, under the Intelligence branch, for a particular foreign coast area. In time most valuable and complete information could be compiled.

Actual practice in a foreign country, except to a limited degree, by the single individual, would be impossible; but it would usually be easy to find places on our coasts where somewhat similar conditions existed. In such a case the foreign objective would always be kept in view during practice raids.

The moral effect which could be produced in war by such a unit might exceed the actual results attained.

It is easy to be wise after an event, but we now know that had the Japanese landed raiding parties on the night of the first attack on Port Arthur, the ordnance of several shore batteries could have been destroyed. The siege, and the heavy loss of life entailed, might even have been rendered unnecessary.

WILFRID B. SPENDER,  
Captain, R.G.A.



# NAVAL AND MILITARY CALENDAR.

MAY, 1906.

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- 1st (T.) H.M.S. "Katoomba" paid off at Portsmouth.
- 4th (F.) The British Government sent an Ultimatum to the Sultan of Turkey ordering the withdrawal of Turkish troops from Egyptian territory in 10 days' time.
- 5th (Sat.) 200 rebel Zulus attacked a British Column in Natal, but were defeated with considerable loss.
- 7th (M.) H.M.S. "Bonaventure" paid off at Devonport.
- " " H.M.S. "Albion" paid off at Chatham.
- " " H.M.S. "Queen" paid off at Portsmouth.
- 8th (T.) H.M.S. "Queen" re-commissioned for further service in the Mediterranean.
- " " Launch of first-class Armoured Cruiser "Admiral Makharoff," from the La Seyne Yard, Toulon, for Russian Navy.
- " " 4th Bn. Worcestershire Regiment left Malta for Egypt in the "Dilwara."
- 11th (F.) H.M.S. "Queen" left Portsmouth for the Mediterranean.
- " " 4th Bn. Worcestershire Regiment arrived in Egypt from Malta in the "Dilwara."
- 12th (Sat.) The Sultan of Turkey yielded to the demands contained in the British Ultimatum.
- 13th (Sun.) Launch of first-class Battle-ship "Ioann Zlatoust" from Imperial Dockyard, Sebastopol, for Russian Navy.
- " " 6th (Inniskilling) Dragoons left Ireland for Egypt in the "Cestrian."
- 14th (M.) H.M.S. "Edgar" paid off at Chatham.
- " " H.M.S. "Sutlej" paid off at Chatham.
- " " H.M.S. "Royal Arthur" paid off at Portsmouth.
- " " H.M.S. "Latona" paid off at Portsmouth.
- " " "U" Battery R. H. A. left England for Egypt in the "Cestrian."
- 15th (T.) H.M.S. "Hogue" commissioned at Devonport for 4th Cruiser Squadron.
- " " H.M.S. "St. George" paid off at Devonport.
- " " H.M.S. "Sutlej" commissioned at Chatham for 4th Cruiser Squadron.
- " " H.M.S. "Euryalus" commissioned at Portsmouth for 4th Cruiser Squadron.
- 17th (Th.) H.M.S. "Prince of Wales" arrived at Spithead from Mediterranean.
- " " H.M.S. "Venus" arrived at Portsmouth from Mediterranean.
- 18th (F.) Loss of Torpedo Boat No. 56 off Damietta by capsizing at 1.30 a.m. in a gale, seven Petty Officers and Men being drowned.
- 19th (Sat.) Sharp fighting took place in Natal near Cetewayo's grave.
- 23rd (W.) 6th (Inniskilling) Dragoons } arrived in Egypt from Ireland and  
"U" Battery R. H. A. } England in the "Cestrian."
- 29th (T.) H.M.S. "Prince of Wales" paid off at Portsmouth.
- " " H.M.S. "Venus" paid off at Portsmouth.
- " " Launch of first-class Battle-ship "Schlesien" from Schichau Yard, at Danzig, for German Navy.
- 30th (W.) H.M.S. "Prince of Wales" re-commissioned at Portsmouth for further service in the Mediterranean.

- 30th (W.) H.M.S. "Venus" re-commissioned at Portsmouth for further service in the Mediterranean.
- " " Stranding of first-class Battle-ship "Montagu," of Channel Fleet, at 2.10 a.m., on the Shutter, Lundy Island, in dense fog.
- 31st (Th.) The Marriage of H.M. the King of Spain with H.R.H. Princess Ena of Battenberg was solemnized in the Church of San Geronimo Madrid. On returning from the Church a bomb was thrown at the Royal Carriage. T.M. the King and Queen of Spain escaped without injury, but about 160 persons were killed and wounded.

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## NOTICES OF BOOKS.

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*War with Disease.* By FREDK. F. MACCABE, M.B. Dublin : Dollard, Ltd., 1906.

It is a good sign of the increased attention now paid on every side to the maintenance and increase of the efficiency of our small Army, when we find officers of all ranks striving to teach themselves and to instruct those under them in the principles of sanitation and a more thorough knowledge of hygiene. In Ireland especially does the matter appear to have been taken up with great thoroughness; several lectures have been recently there delivered on this terribly important subject, and among them the four addresses given to the officers and men of the 3rd Cavalry Brigade on the matter of "Preventive Medicine" deserve the attention of all regimental and medical officers. Dr. MacCabe enlisted the attention of his audience from the very outset by assuring his hearers that "preventive measures, to be effectual, must be simple and guided by common-sense," and showed them how much they might effect by precept and explanation, and what a very great deal their men might do themselves to reduce the enormous wastage from preventible disease for which our Army has always been so unfortunately notorious. Most men are beginning to combat the idle theory, responsible for so large an amount of sickness and death, that "you cannot get soldiers to take precautions"; surely our men have no less self-restraint than have Orientals, and if the Japanese soldiers could reduce their wastage from preventible disease to a minimum, by the respect which they evinced for sanitary rules, there can be no



reason why in such matters we should fall one whit behind our allies. There is no doubt that the Army has done and is doing, in its small, slow way, much good work to the nation in inducing, among the class from which our soldiers are drawn, a knowledge of hygiene, a love of personal cleanliness, and a respect and liking for fresh air and exercise; but both the nation and the Army have yet very much to learn. It is necessary, too, that our medical officers, freed from the care of sickness, should, as sanitary officers, devote practically the whole of their attention to the prevention of disease. In the meantime, regimental officers can do very much, and in this admirable series of lectures by Dr. MacCabe they have—put before them in a most convincing manner and in plain, straightforward language—that which they can not only understand themselves, but can, with advantage and without difficulty, pass on to the men of their squadrons and companies.

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PRINCIPAL ADDITIONS TO LIBRARY, MAY, 1906.

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*The Harseys: Five Generations of an Anglo-Indian Family.* By Colonel H. PEARSE. 8vo. (Presented.) (William Blackwood & Sons.) London, 1905.

*Cromwell: The Campaigns of Edge Hill, Marston Moor, Naseby, and of 1648 in the North of England.* By Captain P. A. CHARRIER. Imp. 8vo. 6s. (Presented.) (Relf Brothers, Ltd.) London, 1906.

*The Nearest Guard: A History of Her Majesty's Body-Guard of the Honourable Corps of Gentlemen-at-Arms, from their Institution in 1509 to the Year 1892.* By Major H. BRACKENBURY. Demy 4to. (Presented.) (Harrison & Sons.) London, 1902.

*Aids to Scouting for Non-commissioned Officers and Men.* By Major-General R. S. S. BADEN-POWELL. Demy 12mo. 1s. (Presented.) (Gale & Polden.) Aldershot, 1906.

*Map Reading and the Elements of Field Sketching.* By Colonel WILLOUGHBY VERNER. 4th Edition. Crown 8vo. 2s. 6d. (Presented.) (John Bale, Sons, & Danielsson, Ltd.) London, 1906.

*Bellum Civile: Hopton's Narrative of his Campaign in the West, 1642-1644, and other Papers.* By Lord HOPTON. Edited by C. E. H. C. HEALEY, Somerset Record Society. Vol. XVIII. 8vo. 12s. 6d. n.p., 1902.

*A Narrative of the First Burmese War, 1824-26.* By G. W. DELRUE-PHILPE. 8vo. 3s. 6d. (Presented.) (Government Printing Press, India.) Calcutta, 1905.

*Notes on Military Sanitation.* By Lieut.-Colonel H. P. G. ELKINGTON, R.A.M.C. Demy 12mo. 1s. (Presented.) (St. John Ambulance Association.) London, 1906.

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*Fontenoy and Great Britain's Share in the War of the Austrian Succession, 1741-48.* By F. H. SKRINE. 8vo. 2ls. (William Blackwood & Sons.) Edinburgh and London, 1906.

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*The King's Regulations and Admiralty Instructions for 1906. With Addenda.* 8vo. 5s. (Presented.) (Eyre & Spottiswoode.) London, 1906.

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*Handbook of the 6-pounder Nordenfelt Q.F. Gun (Land Service), 1906.* 8vo. 9d. (Presented.) (Harrison & Sons.) London, 1906.

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*Instructions Concerning the Duties of Light Infantry in the Field.* By General Jarry. Demy 12mo. (Presented.) (Cox, Son, & Baylis.) London, 1803.

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*Militarie Discipline of the Young Artillery-man.* By Colonel W. BARRIFFE. 6th Edition. Small 4to. (Presented.) (Gertrude Dawson.) London, 1661.

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*A Series of Figures Showing all the Motions of the Manual and Platoon Exercises.* By Major T. L. MITCHELL. 8vo. (Presented.) (William Clowes.) London, 1830.

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*Royal Warrant for Pay, Appointment, Promotion, and Non-effective Pay of the Army, 1906.* 8vo. 1s. (Presented.) (Harrison & Sons.) London, 1906.

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*Brief Digest of the Services of the Buffs (East Kent Regiment).* Compiled by Captain H. R. KNIGHT for the occasion of the Presentation of Colours to the 1st Battalion by the Right Hon. the Lord Mayor of the City of London. 8vo. (Presented.) (Gale & Polden, Ltd.) London, 1906.

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*3rd Cavalry Brigade Training, 1905.* F'cap folio. (Presented.) (Cahill & Co.) Dublin, 1906.

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*Heresies of Sea Power.* By F. T. JANE. 8vo. 12s. 6d. (Presented.) (Longmans, Green, & Co.) London, 1906.

H.U.S.C.

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**The Journal**  
OF THE  
**Royal United Service Institution.**

VOL. XLIX. 1905-1906.

APPENDIX.

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THE SEVENTY-FIFTH  
ANNIVERSARY MEETING  
**MARCH 6th, 1906.**

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LIBRARY  
OF THE  
STATE OF ILLINOIS

# Royal United Service Institution.

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REPORT OF PROCEEDINGS AT THE 75TH ANNIVERSARY  
MEETING HELD ON TUESDAY, MARCH 6TH, FIELD-  
MARSHAL THE RIGHT HONBLE. THE EARL ROBERTS,  
**V.C.**, K.G., K.P., G.C.B., O.M., G.C.S.I., G.C.I.E.  
(CHAIRMAN OF THE COUNCIL), PRESIDING.

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The CHAIRMAN: Gentlemen, the Secretary will read the notice convening the meeting.

The SECRETARY read the notice.

"The Council have the honour to submit their Report for the year 1905.

## COUNCIL.

The Council regret to record the deaths of General Lord Chelmsford, G.C.B., G.C.V.O., and Major-General M. Protheroe, C.B., C.S.I.: Field-Marshal Earl Roberts, **V.C.**, K.G., was appointed a Vice-President, vice Lord Chelmsford, and Major-General H. D. Hutchinson, C.S.I., Director of Staff Duties, filled the vacancy on the Council caused by the death of Major-General Protheroe.

## MEMBERS.

285 officers joined the Institution during the year; of this number 244 became Annual Members and 41 Life Members. 229 names were removed from the List, 104 owing to deaths, 97 on account of withdrawals, and 28 through non-payment of subscriptions. The Council, with regret, wish to again draw attention to the large number of officers resigning; though the total of resignations is less than that of last year, they still consider the number unsatisfactory. The total number of Members at the end of the year was 5,369, showing an increase of 56 on the number recorded at the end of December, 1904.

Most of the officers who have joined the Institution during the year have come from the Regular Army.

## FINANCE.

The year's working has resulted in a credit balance of £803 18s. This is the largest on record for many years, and has been due, as will be seen from the accounts, to an excess of income and a diminution in most of the expenditures. The income of the year has amounted to £7,756, being an increase of £1,048 over 1904. The Balance of the Revenue Account comprises a sum of £611 received as Life Subscriptions; this amount, together with the Surplus Revenue of £192 18s., has been carried to Capital.

## MUSEUM.

During the year many valuable additions have been made to the Museum, which was visited by Her Majesty the Queen, many Members of the Royal Family, and over 32,000 of the public. Many schools visited the Nelson Exhibition, and were admitted at a reduced rate, while a large number of the poorer schools were granted free admission. Many hundreds of Bluejackets and Soldiers also availed themselves of the privilege of free admission. The Council desire to express their sense of the great service rendered by Lieut.-Colonel Leetham, the Secretary of the Institution, in securing the success of the Nelson Exhibition.

The Council wish to convey to the Lords Commissioners of the Admiralty and to the contributors to the Loan Collection of the Nelson Exhibition their best thanks for their valuable support.

## THE JOURNAL.

The JOURNAL has fully maintained its high position as a Service periodical.

Papers on the following subjects were read and discussed, and the majority have appeared in the JOURNAL. To the authors are due the best thanks of the Institution.

*Colonel Sir Howard Vincent, K.C.M.G., C.B., A.D.C., V.D., M.P., Queen's Westminster Volunteers, "The United States Army."*

*Brevet Colonel G. H. Ovens, C.B., h.p., late Commanding 1st Battalion the Border Regiment, "Fighting in Enclosed Country, with some Notes from the Essex Manœuvres."*

*Colonel A. M. Murray, R.A., late Assistant-Commandant, Royal Military Academy, "Comparison Between Continental and English Methods of Military Education."*

*Lieut.-Colonel H. A. Iggulden, the Sherwood Foresters, late Chief Staff Officer Tibet Mission Force, "To Lhasa with the Tibet Expedition, 1903-04."*

*Colonel Lord Raglan, Commanding Royal Monmouthshire Royal Engineers (Militia), "The Militia in 1905."*

*Commander the Lord Ellenborough, R.N. (Retired), "The Possibility of Our Fleets and Harbours being Surprised."*

*Major the Hon. T. F. Fremantle, 1st Bucks V.R.C., "Modern Military Rifles."*

*Colonel the Right Hon. Sir J. H. A. Macdonald (Lord Kingsburgh), K.C.B., "The Volunteers in 1905."*

*Lieutenant H. W. H. Helby, R.N., "Some Observations on Sounding, and the Admiralty Charts."*

*Captain E. D. Swinton, D.S.O., R.E., "The Comfort of Troops on Active Service."*

*Colonel H. Le Roy-Lewis, D.S.O., Hampshire Carabiniers, Imperial Yeomanry, "The Imperial Yeomanry in 1905."*

*Lieut.-Colonel H. De la P. Gough, p.s.c., 16th (The Queen's) Lancers, "The Strategical Employment of Cavalry."*

*Lieutenant H. T. A. Bosanquet, R.N. (Retired), "A Training Service for the Mercantile Marine."*

*Douglas Owen, Esq., Barrister-at-Law, Inner Temple, "Capture at Sea: Modern Conditions and the Ancient Prize Laws."*



- George F. Shee, Esq., M.A.*, "The True Cost of the Voluntary System for Every Branch of Our Military Forces."
- General Sir Richard Harrison, G.C.B., C.M.G., Colonel Commandant Royal Engineers*, "Thoughts on the Organisation of the British Army."
- A. Curtis, Esq., Special War Correspondent of the Chicago "Daily News,"* "The Siege of Port Arthur from a Naval Aspect."
- Major R. A. Johnson, 1st V.B. Hampshire Regiment*, "Military Cyclists and the Home Army."
- Lieut.-Colonel G. M. Heath, D.S.O., R.E.*, "Field Engineering in the Light of Modern Warfare."
- H. E. Leigh Canney, Esq., M.D., M.R.C.S.*, "The Toleration of Enteric Fever by the Army."
- Captain H. H. Paynter, Motor Volunteer Corps (late R.N.)*, "The Use of the Motor Car in Warfare."
- T. Miller Maguire, Esq., M.A., LL.D., Inner Temple, Barrister-at-Law*, "The Development of International Strategy since 1871, and its Present Conditions."

The thanks of the Institution are also due to the following officers for Occasional Papers and Translations from Foreign Journals contributed by them: *Occasional Papers* by G. T. Bennett, Emmanuel College, Cambridge; Colonel C. E. de la Poer Beresford, *p.s.c.*, late Military Attaché, H.M. Embassy, St. Petersburg; Brevet Major W. D. Bird, D.S.O., *p.s.c.*, A.A.G., Indian Staff College; Colonel H. Blundell, C.B. (late Grenadier Guards), M.P. for the Ince Division of Lancashire; Colonel Alexander Burton-Brown, late R.A.; Major J. E. Edmonds, R.E., D.A.Q.M.G.; Major W. Kirkpatrick, D.S.O., late Indian Army; Major F. Cunliffe Owen, R.F.A.; Colonel R. N. R. Reade, *p.s.c., h.p.*, King's Shropshire Light Infantry, and Commandant of the R.M.C. of Canada; Field-Marshal the Right Hon. the Earl Roberts, V.C., K.G., K.P., G.C.B., O.M., etc.; Lieutenant P. O. G. Osborne, R.E.; Lieutenant H. J. Wallis, XX Deccan Horse; Colonel H. A. Walsh, C.B., late Commanding XXth Regimental District; Major B. R. Ward, R.E.; and one anonymous contributor. *Translations from Foreign Works*: Fleet-Surgeon C. Marsh Beadnell, R.N.; Captain W. H. Bingham, 69th Punjabis; Major P. H. du P. Casgrain, R.E.; Major J. L. J. Clarke, East Yorkshire Regiment, D.A.A.G. IIIrd Army Corps; The General Staff; Lieut.-Colonel E. Gunter, *p.s.c.*, (late) East Lancashire Regiment; Lieut.-Colonel the Hon. E. Noel, late Rifle Brigade; and three anonymous contributors.

#### LIBRARY.

The number of books added to the Library was 215, bringing the total number of volumes in the Library up to 28,851.

The number of Members subscribing to the Lending Library has increased from 160 to 172, which may be considered satisfactory.

Donations of books and maps have been received from the Governments of Austria, Belgium, Denmark, France, Germany, Italy, the Netherlands, Russia, Spain, Sweden, Switzerland, and the United States. The thanks of the Council have been conveyed to the several Governments for these donations.

The Institution is indebted to the Lords Commissioners of the Admiralty, to the Army Council, the Secretaries of State for the Colonies, and for India, and to the Civil Service Commissioners, for

copies of various works issued by their respective Departments, and to the Speaker of the House of Commons for Parliamentary papers.

The exchange of Journals with Foreign Governments, and with many Scientific Societies in this and other countries, has been continued.

#### RECEPTION.

On 29th June the Council held a Reception in honour of His Royal Highness the President, who was present, together with Her Royal Highness the Duchess of Connaught and Her Royal Highness Princess Patricia of Connaught. Over 1,200 Members and their friends attended; and, as will be seen from the Accounts, no expense in connection with it was imposed on the funds of the Institution.

#### 'ROYAL UNITED SERVICE INSTITUTION GOLD MEDAL AND TRENCH GASCOIGNE PRIZES.'

The subject of the Essay for the Gold Medal and Trench Gascoigne Prizes is:—

'In the event of war with one or more Naval Powers, how should the Regular Forces be assisted by the Auxiliary Forces and the people of the Kingdom?'

Major-General Sir G. H. Marshall, K.C.B., Major-General Sir T. Fraser, K.C.B., C.M.G., and Lieut.-Colonel C. E. H. Hobhouse, M.P., undertook the duties of Referees, and their decision will be made known at the Anniversary Meeting.

#### SPECIAL MILITARY ESSAY, 1905.

The subject of this Essay is:—

'The best, least irksome, and least costly method of securing the Male Able-bodied Youth of this country for service in the Regular or Auxiliary Forces as existing, and for Expanding those Forces in Time of War.'

The Council hope to be able to announce the result of this competition, together with the names of the Referees, at the Anniversary Meeting; but the work of judging the large numbers of Essays submitted has been very considerable.

#### MEMBERS OF COUNCIL.

The following Members retire from the Council, having served three years or proceeded on foreign service:—

##### *Royal Navy.*

Captain G. A. BALLARD, R.N.

##### *Royal Naval Reserve.*

Commander W. F. CABORNE, C.B., R.N.R.

##### *Regular Army.*

Brigadier-General C. G. DONALD, C.B.

Colonel L. A. HALE.

Major-General G. U. PRIOR.

##### *Militia.*

Colonel W. A. HILL, C.B.

*Yeomanry.*

Colonel Sir W. A. BAILLIE-HAMILTON, K.C.M.G., C.B.

*Volunteers.*

Colonel T. S. CAVE.

Sir G. H. CHUBB, Bart.

The following are the names of the Candidates nominated for the vacancies on the Council:—

*Naval (1 Vacancy).*

Captain Honble. A. E. BETHELL, C.M.G., R.N. (Assistant Director of Naval Ordnance).

Vice-Admiral Sir R. N. CUSTANCE, K.C.M.G., C.V.O.

*Royal Naval Reserve (1 vacancy).*

Commander W. F. CABORNE, C.B., R.N.R. (for re-election).

*Regular Army (3 Vacancies).*

Colonel Honble. J. T. ST. AUBYN, C.V.O., Commanding Grenadier Guards.

Brigadier-General C. G. DONALD, C.B. (for re-election).

Colonel L. A. HALE (for re-election).

Colonel Honble. O. V. G. A. LUMLEY, late Commanding 11th Hussars, h.p.

Major-General G. U. PRIOR, p.s.c. (for re-election).

Colonel F. W. ROMILLY, C.B., D.S.O., p.s.c., Commanding Scots Guards.

*Militia (1 vacancy).*

Colonel the Viscount HARDINGE, Commanding 7th Battalion The Rifle Brigade.

Colonel W. A. HILL, C.B. (for re-election).

*Yeomanry (1 vacancy).*

Colonel R. B. COLVIN, C.B., Commanding Essex Imperial Yeomanry.

Major W. B. STEWART, Lothians and Berwickshire Imperial Yeomanry.

*Volunteers (2 vacancies).*

Colonel E. H. BAILEY, V.D., Commanding 1st V.B. East Surrey Regiment.

Colonel T. S. CAVE, V.D., Commanding 1st V.B. The Hampshire Regiment (for re-election).

Sir G. H. CHUBB, Bart., late Captain, 4th V.B. East Surrey Regiment (for re-election).

Colonel W. C. HORSLEY, V.D., Commanding 20th Middlesex V.R.C. (Artists).

Colonel Sir H. ROBERTS, Bart., V.D., Commanding 16th Middlesex V.R.C. (London Irish).

Colonel G. RUMSEY, Commanding 4th V.B. The Queen's Royal West Surrey Regiment.

A. LEETHAM, Lieut.-Colonel,

*Secretary.*

Whitehall,

January 25th, 1906."



## REVENUE ACCOUNT FOR THE YEAR ENDING 31ST DECEMBER, 1905.

DR.

C.R.

1904.		1905.		1904.		1905.	
£	s. d.	£	s. d.	£	s. d.	£	s. d.
To Members' Subscriptions	3,455	3,508	11 0	By Salaries	...	990	0 0
Extra Subscriptions	232	205	6 6	Pensions	...	50	0 0
Entrance Fees	184	...	...	Servants' Wages	...	675	19 0
Dividends and Interest	454	...	...	Servants' Clothing	...	54	8 0
Government Grant	600	...	...	Ground Rent	...	551	0 0
Sale of Journal	193	...	...	Water	...	59	1 3
Advertisements in Journal	292	...	...	Rates	...	583	6 8
Lending Library	85	...	...	Taxes	...	80	18 9
Sale of Library Catalogue	1	...	...	Insurance	...	...	...
Rent of Lecture Theatre	185	...	...	Fuel	...	53	19 0
Admissions to Museum	507	...	...	Lighting	...	68	17 9
Miscellaneous Receipts	1	...	...	Repairs to Building	...	98	6 9
Seats to view Procession to Parliament	30	...	...	Telephone	...	8	4 3
Life Subscriptions	448	...	...	House Expenses and Sundries	...	1-7	2 3
Sale of Pamphlets and other Museum Receipts	40	...	...	Depreciation of Furniture	...	30	0 0
Sale of Catalogue of Nelson Exhibition	...	...	...	Museum Sundries	...	...	...
Reception Account	...	...	...	Journal Printing	...	1,408	16 4
	...	...	...	Shorthand Notes	...	71	19 6
	...	...	...	Literary Services	...	90	0 0
	...	...	...	Slips and Short Copies of Lectures	...	17	15 9
	...	...	...	Postage of Journals	...	521	10 11
	...	...	...	Library	...	...	...
	...	...	...	Lecture Expenses	...	7	15 6
	...	...	...	Advertising Lectures	...	49	11 5
	...	...	...	Audit and Accountancy	...	...	...
	...	...	...	Postage of Letters, Stamps, etc.	...	57	6 11
	...	...	...	Printing and Stationery	...	26	5 0
	...	...	...	Gold Medal	...	69	4 5
	...	...	...	Nelson Exhibition	...	357	16 3
	...	...	...	" "	...	11	10 0
	...	...	...	Catalogue	...	325	7 11
	...	...	...	" "	...	82	8 6
	...	...	...	Balance carried to Balance Sheet—	...	407	16 5
	...	...	...	Life Subscriptions	...	611	0 0
	...	...	...	Surplus Revenue	...	192	18 0
	...	...	...		...	803	18 0
	...	...	...		...	£7,756	4 9
	...	...	...		...	£6,827	

## BALANCE SHEET, 31st DECEMBER, 1905.

CR.

1904.

£	1905.	s.	d.
38,714	To Balance, 31st December, 1904	38,531	19 11
	By Balance from Revenue Account—		
	Life Subscriptions	611	0 0
	Surplus Revenue	192	14 0
		803	18 0
<u>£38,714</u>			

£38,714

38,532	To Balance	...	...
944	Special Military Essay	157	10 0
	Sundry Creditors	925	8 2
433	Reserve for Painting, Repairs, &c.	1,082	18 2
27	Subscriptions paid in advance	352	13 6
		23	15 0

1904.

£	1905.	£	s.	d.
120	By Balance from Revenue Account	...	...	...
62	Refunds in respect of Nelson Statuette	...	...	...
	Cataloguing Parliamentary Papers	...	...	...
38,532	Balance	...	...	...
<u>£38,714</u>		...	...	...

23,102	By Outlay on New Building	...	...	...
	Furniture	...	...	...
340	less Depreciation	...	...	...

967	Investments for Reserve Fund—	...	...	...
450	£1,000 0s. 0d. Ceylon 3 p.c. (at cost)	...	...	...
1,200	£437 18s. 2d. Canada 3 p.c. (at cost)	...	...	...
	£1,230 13s. 7d. Consols 2½ p.c. (valued at cost)	...	...	...
2,656	£2,421 18s. 8d. India 3½ p.c. (at cost)	...	...	...
2,954	£3,044 17s. 11d. India 3 p.c. (at cost)	...	...	...
3,076	£3,076 5s. 4d. Nottingham Corporation 3 p.c. (at cost)	...	...	...
1,300	£1,181 10s. Oxford Corporation p.c. (at cost)	...	...	...
2,325	£5,000 Hull and Barnsley Railway Ordinary Stock, valued 31st December, 1897 (Trench Gascoigne Gift)	...	...	...
500	£473 17s. 9d. Canada 3½ p.c. (Hoskier Bequest) (at cost)	...	...	...
360	Sundry Debtors	...	...	...
	Balance at Bank—	...	...	...
148	Current Account...	...	...	...
500	Deposit Account...	...	...	...
28	Cash in hand	...	...	...
	Petty Cash Balance	...	...	...

£39,936

£40,740 17 7

We have examined the above Balance Sheet and Revenue Account's with the Books and Vouchers and certify the same to be correct.

All our requirements as Auditors have been complied with. We have verified the Cash Balance and Investments set out in the Balance Sheet, and, subject to provision for the Depreciation of the Lease and for any depreciation in the value of the investments, we are of opinion that the Balance Sheet is properly drawn up and correctly shows the position of the Royal United Service Institution on the 31st December, 1905.

WILDE AND FERGUSON DAVIE, Chartered Accountants,  
Auditors

17th January, 1906.

# CHESNEY MEMORIAL MEDAL FUND.

DR.		31ST DECEMBER, 1905.		CR.	
		1905.			
		£	s. d.		£ s. d.
Jan. 1.	To Balance, 31st December, 1904	...	43 14 8		...
June 5.	" 6 mths. Div. £230, Bengal & North-Western Ry. Pref. Stock	...	3 16 6	By Balance in favour of Fund	51 7 8
Dec.	" " " " "	...	3 16 6		
			<u>£51 7 8</u>		<u>£51 7 8</u>

We hereby certify the above Account to be correct,

WILDE AND FERGUSON DAVIE, Chartered Accountants,  
Auditors.

17th January, 1906.

# TRENCH GASCOIGNE PRIZE FUND.

DR.		31ST DECEMBER, 1905.		CR.	
		1905.			
		£	s. d.		£ s. d.
Dec. 31.	To Balance, 31st December, 1904	...	35 3 9		...
May 15.	" 6 mths. Div., £1,862 18s., North Brit. Ry. Deb. Stock	...	26 11 0	By 1st Prize Essay, 1903	31 10 0
Nov. 13.	" " " " "	...	26 11 0	" 2nd " " "	31 10 0
				Dec. 31. " Balance in favour of Fund	25 5 9
			<u>£88 5 9</u>		<u>£88 5 9</u>

We hereby certify the above Account to be correct,

WILDE AND FERGUSON DAVIE, Chartered Accountants,  
Auditors.

17th January, 1906.



## NUMBER OF MEMBERS.

				Life.	Annual.	Total.
Members on 1st January, 1905	..	..	..	1935	3378	5313
„ joined during 1905	..	..	..	41	244	285
				<u>1976</u>	<u>3622</u>	<u>5598</u>
				Life.	Annual.	
Deduct—Deaths during 1905	..	39	65	39	190	229
Withdrawals	..	..	97			
Struck off	..	..	28			
			<u>39</u>	<u>190</u>		
Number on 1st January, 1906	..	..	..	<u>1937</u>	<u>3432</u>	<u>5369</u>

## TABULAR ANALYSIS OF THE STATE OF THE INSTITUTION.

[A full analysis for each year from 1831 will be found in the Report for 1897.]

Year. 1st Jan. to 31st Dec.	Annual Subs. received.	En- trance Fees.	Receipts (from all sources).	Life Subs. re- ceived.	Amount of Stock.	Invested in the pur- chase of Books, &c.	No. of Vols. in Library.	No. of Members on the 31st Dec.
	£	£	£	£	£	£		
1831	654	..	654	1,194	..	..	..	1,437
1841	1,450	..	1,643	186	6,000	243	5,850	4,243
1851	1,136	131	1,292	66	666	34	10,150	3,188
1861	2,122	305	2,899	266	2,846	99	11,812	3,689
1871	2,455	237	3,677	538	7,748	202	15,501	3,922
1881	2,893	238	4,967	645	13,670	240	19,920	4,577
1891	2,640	189	5,004	454	21,942	153	23,845	4,204
1892	2,930	605	9,429	1,572	24,805	142	24,099	4,657
1893	2,929	468	8,334	1,095	22,172	157	24,471	4,961
1894	3,598	215	6,625	606	12,840	200	24,680	5,016
1895	3,760	353	7,117	921	8,761	204	25,947	5,198
1896	3,802	351	7,225	876	8,761	245	26,161	5,347
1897	3,910	401	10,902†	959	12,386	381	26,381	5,550
1898	3,964	265	6,935	493	12,386	376	26,592	5,620
1899	3,834	167	6,646	251	12,841	430	27,142	5,583
1900	3,879	174	7,170*	235	13,791	264	27,492	5,491
1901	3,816	197	6,955	358	14,192	289	27,792	5,443
1902	3,806	188	7,063	449	14,491	309	28,167	5,427
1903	3,743	178	6,597	409	15,459	299	28,387	5,361
1904	3,684	184	6,707	448	15,459	301	28,636	5,313
1905	3,713	253	7,756	611	15,459	324	28,851	5,369

† A donation of stock valued at £2,323, and £1,301 realised by the letting of seats to view Her Majesty's Diamond Jubilee Procession, are included in this amount.

\* This amount includes a donation of £500.

The CHAIRMAN: Gentlemen, I will ask you to consider that the Report and Accounts, as circulated, be taken as read, and adopted. I should like to say, myself, that this will be the last time I shall be in the Chair as Chairman of the Council of this Institution. I am glad to be able to say that I believe the Institution to be in a most satisfactory condition. You will be able to judge from the Report how matters stand. Throughout this year there have been great attractions in the Museum. The Centenary of Nelson, of course, assisted very much to add to them. I would like to express my thanks to the Secretary and to the Assistant Secretary for the great trouble they took throughout that time. (Hear, hear.) In fact I may say it was really owing to them that everything was done in so satisfactory a manner. I attended here myself very often, and met people who all expressed their great delight at the very systematic way in which the various decorations and mementoes of the great Admiral were laid out. Speaking generally, those I have seen who have been in the Hall have told me how delighted they were when they came here and how sorry they were that they did not know that such an Institution existed; that they would tell all their friends that it was one of the best places in London to come to visit. I must also express my great thanks to the members of the Council who have assisted me materially at our meetings. It is very pleasant to me to be in this position, and I owe it to them that everything has passed off in so satisfactory and pleasant a manner.

Major-General Sir G. H. MARSHALL, K.C.B.: I beg to second his lordship's proposal, and in doing so I would invite your attention to p. 8 of the Report, where you will find, I think, that the financial condition of the Institution is very satisfactory. We have a balance this year of over £803, as compared with a deficit last year of £100. I would point out that the whole of that is not due, as some might naturally think, to the proceeds of the Nelson Exhibition; but a great deal of it is of a permanent nature. There are several items in the Report, but I will not go through them; however, I would call your attention to the fact that in the matter of taxes we have made a saving of £80 this year, which will be permanent. I therefore think that we are justified in hoping that the financial condition of the Institution will continue satisfactory in the future.

Colonel LONSDALE HALE: Gentlemen, It is my duty on this occasion to make a few remarks. I will detain you as short a time as possible, but this is the only means the Council have of communicating with the 4,500 members who never come near the Institution. With regard to those gentlemen, there was a proposal mentioned at the last Annual Meeting, asking us to extend the Lending Library to the units of the Army. The Lending Library is now only available for individual members. The subject was gone into, not only by the Library Committee, but by independent people, and we have come to the conclusion that it is impossible to extend to other than individual members of the Institution the use of the Lending Library. We have gone into this matter most thoroughly, and it is impossible. The next point was that we offered to be of assistance to anybody, or any units, in obtaining books and so forth, and I am glad to say that at least a dozen regiments and individuals have applied to the Secretary for assistance, and that assistance has been given in select-

ing books, packing them, and sending them out, and no doubt that will be a very important function of the Institution in the future.

As regards the Lending Library, it is not only my opinion, but the opinion of all the Committee, that there is a very great future before it. We are aware that the Government has given £18 to every unit in aid of the Library, and £3 towards the upkeep. Those of us who know library work know what a little way £3 goes for the upkeep of a library, and I think that in course of time this Institution will become the great Military Lending Library of the Army and Navy. In order to do that, of course, it is very desirable that members should not be kept waiting for books. I am not going so far as a certain well-known journal has done in establishing a Book Club, saying that you can always have a book if you want it, but at the same time, I have gone carefully into the financial aspects of the matter with Captain Garbett, and we have found there was a waiting list. It is most essential that there should not be a waiting list for officers who should have to write to us again and again with regard to these matters, and we therefore came to the conclusion that we could, by an expenditure of a few pounds, wipe off the whole of the waiting list. At the present time there is not a single member of the Institution waiting for any book he requires, and we hope to be able to keep that satisfactory state of things up. If a member writes for a book like "The Life of Lord Randolph Churchill," of course we do not keep such books, and he will have to wait for that; but if we do that to help the members of the Lending Library, we must ask them to play fair in return; we must ask them not to lend books to officers who do not belong to the Institution or to the Lending Library. An officer of a high degree had the audacity to tell me, of all people in the world, the other day that he had borrowed books from the Library to lend to some of his young fellows, and before I could speak my mind to him, he told me, as a conclusion of the story, that the young fellows had lost the books, and that he had to scour all over England to replace them, and to replace them at his own cost. Well, if you lend books to people who have no right to them, and they become lost for some reason or other, then of course it is only right that the lender should lose on the transaction. The Institution has to buy the new book, or officers have to be kept waiting for it. It is most desirable that officers should not break through our Rules with regard to books by lending them to people who do not belong to the Lending Library.

Now, a Lending Library is of no use to people without a good Catalogue, and we have had a good many applications lately for them. Our present Catalogue is very large, expensive, and not up-to-date; it is a very excellent one in its way, but I am glad to say that the Council have determined to spend between £400 and £500 on the preparation of a new Catalogue. That Catalogue is actually now in course of production, but whether it will be ready during this year we do not know. Of course, very great care has to be taken in the production, and in it we hope to mark with asterisks books which cannot go out of the Institution, so that officers will know that it is no use applying for them. It will be a handy book, and we hope the price will not be over 4s., perhaps 3s. 6d., and therefore there is no reason why there should not be a complete Catalogue, supplemented every year by addenda, of the Library of the United Service Institution. By that



means we hope to bring the Library of the Institution up-to-date, and make it useful for the Army generally at home, and not merely the hunting ground of a few men who have time to come and look at the books here. The whole policy of the Council and of the Library Committee up to the present time has been to try and extend in every way the usefulness of the Institution to the members who never come here.

That brings me to the JOURNAL, and with regard to that I have to say a few words also. Nothing pleases us more than to receive suggestions or remonstrances or complaints about the JOURNAL, and the first I received was: Why did not we make it larger? Well, we could make it very much larger. I have here in my hand two sets of numbers. Here is the large number, and here is the small number. Last year we sent out three of those large numbers and nine of these small numbers. The postage of the one was 2d. and the postage of the other was 2½d.—a difference in postage alone between *this* issue and *that* of as much as £10. Well, we shall doubtless have plenty of suggestions: Why do not you use thin paper? I have enquired into that of the London publisher, and he says that thin paper will be no good. He says our paper is already weak—it has no “guts” in it. It has quite enough “guts” for ordinary use, and I think we shall keep to that paper. Then another suggestion will be: Why don’t you send them to agents or to be stocked at Aldershot to distribute? Well, we have tried that, but it does not answer, and the guarantee with our members abroad now is that the members are responsible for the delivery of their JOURNAL. If they change their address, and do not tell us, we send the JOURNAL to the old address; but the Institution is personally responsible without any intermediary to the members abroad for the kindly reception they have given the JOURNAL.

Until some cheaper plan which will ensure that exactitude in delivery is before us, I do not think the Council will be inclined to try and save the £10 for the alteration. As it is, this JOURNAL is very much larger than it looks. My friend, Captain Garbett, has been kindly making some calculations. Last year the *National Review* had about one million words in it, and we calculated the number in three of *this* size and nine of *that* size of our JOURNAL, and found they came short of one million only by 40,000 words. So that I think if you are perfectly satisfied with the *National Review*, you should be satisfied that you get enough for your money in the JOURNAL.

During this year we shall have to issue a thirteenth number. The Essays for the Gascoigne Prizes will be in one of the ordinary twelve numbers, but we purpose to issue the Essays for the other prizes in a separate number, to advertise very largely in the provinces in the provincial papers, and sell it at a cheap price; and I have not the least doubt that owing to the great interest of the subject, it will have an enormous sale throughout the country. Another complaint comes from other quarters: Why do not you have naval lectures? Well, the military authorities approve of our discussing things here, and, therefore, we had the other day a General commanding at Aldershot and a Colonel on the Staff at Salisbury giving lectures, and men on full pay rose up and spoke, and there is no black mark against them. But the Navy do not encourage discussion; they do not like it. Until they alter their views, the only thing we can do—as we cannot have a discussion of naval matters in the Institution—is to see that our Naval Notes are much fuller in the JOURNAL than

our Military Notes. If we can give the military men lectures and notes, we are bound to give our naval members a correspondingly large portion of naval matters in another form.

Those are all the remarks I have to make, except one, which I think will interest you very much indeed. Of course, we think on the Council that our JOURNAL is very good, and the Library Committee think it is good, and the Editor thinks it is good. If it is good, all the credit lies entirely with the Editor. The Council do not interfere with the JOURNAL Committee, and the JOURNAL Committee merely back up the Editor. I have always thought it would be interesting if one could get honest full and free opinion as to the value of the JOURNAL, and I have got it, and got it by the merest chance. I noticed that in the accounts, the sale to the general public this year was very considerably larger than the sale last year, and I wondered who were the new purchasers, whether the country had been aroused by his lordship's patriotic crusade, and was turning to military subjects. I happened to be in the company the other day of Mr. Rees, the well-known military publisher, of Pall Mall, and we talked about the JOURNAL. He said: "Yes, I have had a good deal to do with your JOURNAL; I have a customer who since April has taken 100 copies every month." "A hundred copies a month by a new customer? Is he in the trade?" "No," said Mr. Rees. I asked who he was. Gentlemen, it is no less important a customer than the Government of Japan. (Hear, hear.) That young, rising naval and military Power, that virile nation, thinks so highly of our JOURNAL that for the present year it has been taking in one hundred copies a month for itself. I think, gentlemen, that that is the biggest feather our friend here, Captain Garbett, could possibly wear.

Captain CHARLES SLACK: With reference to the remarks of the Chairman, I should like to add my testimony to the valuable services rendered to the Institution by our present Secretary, who is ever ready to assist in anything that would advance the Institution. I should like, also, to add that I regret no notice is taken in the Report of closing the Institution at 7 o'clock during the winter months. This early closing does not at all help those officers who may be engaged in business up to 5 or 6 o'clock. It gives no time for study or research, and I am convinced it takes away the inducement of some who would otherwise join. I wrote a letter at the time, pointing this out, and it was signed by several of the members. The saving in economy is not, I think, well placed, and if the numbers attending are small, that is no reason for shutting them out.

The CHAIRMAN: The Secretary informs me that this question was considered, but it was found, on the average, that only 15 people attended after 7 o'clock. It was thought that the extra expense of lighting was not sufficient to warrant the keeping open of the Institution for the very small number of people attending. If there is a larger attendance, I have no doubt the Council will again take the matter into their consideration, and endeavour to meet your views.

Colonel G. G. A. EGERTON, C.B. (Yorkshire Regiment): I have a suggestion to make with regard to the JOURNAL of this Institution. Having read it now for twenty-four years, I can only say that the improvement of the JOURNAL during the last few years has been perfectly marvellous — it is immense. (Hear, hear.) But I would



venture to put forward and commend to the consideration of the Library Committee one suggestion, namely, that the lectures should appear more frequently, and, if possible, at closer intervals after their delivery. I will not take up the time of the meeting by labouring the subject, but I am perfectly certain that we who are on the active list, and are not able to get to the Institution to hear the lectures—we see them well, but shortly, criticised in the military Press—would like, if possible, in the following month, when a really good lecture is given, to read it in the pages of the JOURNAL. I have been told that there are objections to that, owing to the paucity of matter in the summer months, and that lectures must be put in the JOURNAL in the summer months to fill it up. I do not know whether that is so or not; but certainly when a good lecture is given at this Institution, and we see it criticised, we would like shortly afterwards, if it were possible, to read it in full in the pages of the JOURNAL.

The CHAIRMAN: I quite agree with the observations which have fallen from the last speaker, and I am sure the Council will take the matter into consideration. It stands to reason when there is a good lecture that the outside members, who cannot attend themselves to hear it, would wish to see it as soon as they can. The members may rest assured that the suggestion will be attended to as far as possible.

The motion for the adoption of the Report was then put and carried unanimously.

The CHAIRMAN: The Secretary will now read the Report of the Referees on the 1905 Military Essays.

The SECRETARY read the following Report:—

“The Referees chosen by the Council of the Royal United Service Institution to decide the awards for the Military Essay, 1905, beg to report to the Council as follows:—

1. The subject of the Essay was: ‘In the event of War with one or more Naval Powers, how should the Regular Forces be Assisted by the Auxiliary Forces and the People of the Kingdom?’
2. The number of Essays submitted to the Referees was 19.
3. The Referees award the ‘R.U.S.I. Gold Medal and Trench-Gascoigne Prize’ to the writer of the Essay No. 6, bearing the motto: ‘God helps those who help themselves.’
4. They award the ‘Second Trench-Gascoigne Prize’ to the writer of the Essay No. 8, bearing the motto: ‘God helps them that help themselves.’
5. They commend the following Essays, and recommend that they be printed in the JOURNAL in the order as entered:—  
No. 17.—‘Precept upon precept, line upon line.’  
No. 18.—‘Nunquam non paratus.’  
No. 9.—‘Union is strength.’

G. H. MARSHALL, <i>Major-General.</i>	} <i>Referees.</i>
T. FRASER, <i>Major-General.</i>	
CHARLES E. HOBHOUSE, <i>Lieut.-Col.</i>	

*January 6th, 1906.”*



The CHAIRMAN announced the awards as follows:—

The R.U.S.I. Gold Medal and Trench-Gascoigne Prize:—

Major W. Cyprian Bridge, D.A.A.G., D.A.Q.M.G., Mauritius.

Second Trench-Gascoigne Prize:—

Major H. R. Mead, 116th Mahrattas.

Commended:—Major A. B. M. Churchill, Royal Artillery; Major R. A. Johnson, 1st Volunteer Battalion, Hampshire Regiment; Major J. F. Cadell, Royal Artillery.

The Hon. Sir E. R. FREMANTLE, G.C.B., C.M.G.: My Lord and Gentlemen, I can sympathise very greatly with the Referees in the trouble they must have had in going through nineteen Essays, and as apparently a great many of them were of a very valuable nature, I have no doubt it gave them a great deal more trouble than usual. I have been a Referee myself, and therefore I can sympathise to some extent with them. It is an extraordinary fact that the first two Essays should have had practically the same motto. I can only say I think we shall all agree that it was an extremely good motto, for if we do not help ourselves, I am afraid Providence will scarcely help us as we should like it to do. It has been said, as we know well, that Providence is on the side of the big battalion. I have sympathy, also, with the competitors who have had to submit their Essays with a chance—and only a bare chance—of their being accepted. I intended to tell a story to you about an officer I knew when I was writing an essay. He thought it was the best joke he had heard for a long while. He said: "I do not exactly see what the joke is; I have known so many people who write essays and never hear anything of them again." The curious thing was that I went away from England for five years, and when I came back he was the first officer I met on the steps of the Club. And he said: "You got the Essay Prize after all." Therefore, I am glad to say that though the Referees had a very difficult task before them, they have succeeded, at all events, in pleasing one, and they can succeed in pleasing at least two competitors, and that is very satisfactory. As I am now on my legs, I should like to make a remark with regard to the naval lectures. As Colonel Lonsdale Hale has explained, there is no doubt that the Council can get naval lectures, but I am afraid we should get them principally from men who are more or less fossils. I am one of those who have lectured at the Royal United Service Institution more than once, but I should feel extremely reluctant to lecture now that so many changes are taking place. I can only wish that the Admiralty did encourage naval officers a little more in this direction. They did some little time ago, and we do not know what line Lord Tweedmouth will take in the matter. At all events, I venture to congratulate the Council and those who have charge of the JOURNAL, on having, as Colonel Lonsdale Hale has told us, added so much in the Naval Notes to the JOURNAL. I must apologise, perhaps, for having detained you too long. I have now pleasure in moving: "That a vote of thanks be accorded to the Referees, Major-General Sir G. H. Marshall, K.C.B., Major-General

Sir T. Fraser, K.C.B., C.M.G., Lieut.-Colonel C. E. H. Hobhouse, M.P., for their valuable services in adjudicating on the Essays."

General Sir M. DILLON, G.C.B., C.S.I., seconded the motion, which was carried.

The CHAIRMAN: The Secretary will now read the Report of the Referees on the Special Military Essays.

The SECRETARY read the Report as follows:—

"The Referees in submitting their opinion on the Essays for the Special Prizes, 1905, desire to state that they do not consider that any of the Essays submitted to them offer a thoroughly satisfactory solution of the problem laid before the writers; this fact being in part attributable to the limitations imposed by the wording of the conditions. They award the First Prize to Essay Number 65, bearing the motto, 'Tout citoyen se doit à la défense de son pays'; the Second Prize to Number 101, bearing the motto, 'Der gute ist des besten feind'; and the Third Prize to Number 54, bearing the motto, 'Mene Mene tekell upharsin.' The following Essays might be considered by the Council for publication: No. 30, 'Holdfast'; No. 55, 'Nunquam non paratus'; and No. 108, 'Pro Rege et Lege.'"

EVELYN WOOD, *Field-Marshal*  
(*Chairman*).

CHARLES W. DILKE.

SPENSER WILKINSON.

F. S. ROBB, *Brigadier-General*.

HUGH PEARSE, *Colonel*.

} *Referees.*

The CHAIRMAN: The subject of the Essay was: "The best, least irksome, and least costly method of securing the male able-bodied youth of this country for service in the Regular or Auxiliary Forces as existing, and for expanding those Forces in time of war."

The CHAIRMAN then announced the awards as follows:—First Prize, No. 65, Captain F. B. Dunlop (Worcestershire Regiment); Second Prize, No. 101, Colonel F. N. Maude, C.B., 1st Hampshire R.E. (V.). Third Prize, No. 54, Major G. F. MacMunn, D.S.O., R.F.A. Commended: Captain S. C. Birch, Major R. F. Sorsbie, R.E., and Major J. F. Cadell, R.F.A.

The CHAIRMAN: It is now my pleasant duty to propose a vote of thanks, which I do most sincerely, to the Referees. I do not exactly know how many Essays there were, but I believe there were something like one hundred and twelve altogether. It has been a very serious duty to undertake to read over a hundred and twelve Essays. Field-Marshal Sir Evelyn Wood told me that it took up the whole of his time, and interfered with his hunting. I can quite

understand that it has been a very serious matter. I have much pleasure in moving:—

“That a vote of thanks be accorded to the Referees—

Field-Marshal Sir H. E. Wood, V.C., G.C.B., G.C.M.G.,  
The Right Honourable Sir Charles Wentworth Dilke,  
Bart., M.P.,

Brigadier-General F. S. Robb, C.B., M.V.O.,

Colonel H. W. Pearse, D.S.O.,

H. Spenser Wilkinson, Esq.,

for their valuable services in adjudicating on the Essays.”

Colonel LONSDALE HALE (in the absence of Admiral Sir R. H. Harris): I have pleasure in seconding this motion. I have much sympathy with the Referees. When the Essays first came in we formed a small committee, consisting of the Secretary, the Editor, and myself, to classify these hundred and twenty Essays. We had to go through each and endeavour to classify them. That gave me some idea of the awfulness of the task of looking over them. The Referees fully deserve every thanks we can possibly give them.

The motion was then put and carried.

The CHAIRMAN: Gentlemen, I very much regret that I am now obliged to go away. I will ask Major-General Sir George Marshall to occupy the Chair.

Colonel the Hon. O. V. G. A. LUMLEY: Sir George Marshall and gentlemen, I beg to propose: “That the thanks of the Meeting be accorded to the auditors, Messrs. Wilde and Ferguson Davie, for their services, and that they be re-elected auditors for the ensuing year at a fee of twenty-five guineas.”

Colonel T. S. CAVE seconded the motion, which was agreed to.

Colonel E. T. RODNEY WILDE: I am very much obliged to you for the vote of thanks which you have just passed to the auditors in connection with their year of work, and for the honour you have done me in re-electing me as auditor. It is very pleasant to see that this year the accounts have come out so satisfactorily as regards your balance. I am pleased to say that the work in connection with the books and the keeping of the accounts is very satisfactorily done, and reflects great credit on the Assistant-Secretary, who is the gentleman answerable for it.

Commander W. F. CABORNE, C.B., R.N.R.: Sir George Marshall and gentlemen, I rise to move a resolution, having for its object an alteration in the bye-laws of the Institution, inasmuch as they affect the appointment of members to the Council, when vacancies occur, during the period which elapses between two annual general meetings. At the present moment our system is that, candidates who have been unfortunate in the ballot are placed on lists in their respective sections, and are brought on to the Council automatically, when vacancies occur in the particular sections to which they belong, according to the votes



they have received. Now, in theory, that is a most excellent arrangement, it could not possibly be better; but in practice it has its disadvantages. For instance, it is quite possible, giving you the extremest case, for a man to become a member of the Council during the period which elapses between two annual general meetings upon the strength of only one vote, and that vote his own, to the exclusion, it may be, of some officer who, from the appointment he holds, or from his distinguished services, or from some other cause, might be of the greatest value to the Institution. Now what is proposed is simply this, that the Council should have the power to appoint officers to any vacancies that may occur during the aforesaid periods. In asking for that we are not asking for anything unusual, because it is a power that is inherent in the Councils or Committees of most, if not all, Societies, and of the governing bodies of all our great commercial undertakings. I think I have demonstrated the advisability of the change, and, therefore, I will simply propose:—

“That Sections 9 and 10, Chapter IV. of the Bye-Laws, which now read—

9. ‘Vacancies occurring during the ensuing year will be filled in order from the lists of non-elected nominees arranged according to the number of votes obtained at the Annual General Meeting. The lists shall become null and void at the next Annual General Meeting.’
10. ‘If during the interval between one Annual General Meeting and another there are no non-elected nominees to fill a vacancy or vacancies occurring in the Council, the election to the vacancy or vacancies shall devolve on the Council.’

be altered to read as follows:—

‘The duty of filling vacancies occurring on the Council between the Anniversary Meetings will devolve on the Council.’”

Colonel Lonsdale Hale, who will second the motion, has asked me to add the following, which personally, as the proposer, I see no objection to:—“Providing that any vacancy occurring subsequently to the 31st December shall remain vacant until the next Annual General Meeting.”

Colonel LONSDALE HALE: I must apologise for being so much on my legs this afternoon. I was one of the originators of this system which is proposed to be superseded. We thought then that it would answer, but for the reasons given by Commander Caborne it has been found that it does not answer. We have been driven sometimes, and might be driven again, to bring on a man with only one vote. I think it is far better that it should be final. The reason why I brought this in was to break up the close borough; but unless you pass the rider the close borough may come in again, because shortly after the annual meeting three members or four members might go off, and the Council might put in their own nominees; whereas, if you pass the resolution with a rider, it is pretty sure that the election will remain open.

The motion was then put and carried.

A ballot to fill 1 Naval, 3 Regular Army, 1 Militia, 1 Yeomanry, and 2 Volunteer seats on the Council, was taken. There being no competition for the Royal Naval Reserve seat, Commander W. F. Caborne, R.N.R., was re-appointed.

The Scrutineers announced the result of the ballot as follows:—

*Royal Navy.*

Captain the Hon. A. E. Bethell, C.M.G., R.N.

*Regular Army.*

Colonel L. A. Hale.

Brigadier-General C. G. Donald, C.B.

Colonel the Hon. O. V. G. A. Lumley.

*Militia.*

Colonel W. A. Hill, C.B.

*Yeomanry.*

Colonel R. B. Colvin, C.B.

*Volunteers.*

Colonel T. S. Cave, V.D.

Colonel W. C. Horsley, V.D.

Colonel LONSDALE HALE: I have much pleasure in proposing a vote of thanks to the Scrutineers, Colonel E. T. Rodney Wilde and Lieutenant H. T. A. Bosanquet, R.N. I am sure we all thoroughly appreciate the great pains they have taken in arriving at their decision.

Major-General Sir G. H. MARSHALL, K.C.B., seconded the motion, which was agreed to.

Major-General Sir E. T. H. HUTTON, K.C.M.G., C.B.: Sir George Marshall and gentlemen, I have been asked to move the following resolution:—

“That a vote of thanks be accorded to the following officers who, having served three years on the Council, or having proceeded on a tour of service abroad, now retire:—

*Royal Navy.*

Captain G. A. Ballard, R.N.

*Royal Naval Reserve.*

Commander W. F. Caborne, C.B., R.N.R.

*Regular Army.*

Brigadier-General C. G. Donald, C.B.

Colonel L. A. Hale.

Major-General G. U. Prior.

*Militia.*

Colonel W. A. Hill, C.B.

*Yeomanry.*

Colonel Sir W. A. Baillie-Hamilton, K.C.M.G., C.B.

*Volunteers.*

Colonel T. S. Cave.

Sir G. H. Chubb, Bart."

I feel sure that all here who have served on the Council of the Royal United Service Institution will accord a very hearty vote of thanks to the gentlemen whose names I have mentioned. (Hear, hear.) Personally, I have served on the Council for three years, during a very stormy period of the history of this Institution, which I daresay Colonel Lonsdale Hale will recall, for he was the leader of the reform party, of which I was a humble member, a party which was instrumental in moving the Institution from its old buildings over the way into its present palatial establishment, which forms such an attraction to this great Metropolis of London. I have very much pleasure in submitting to the meeting the names of the gentlemen which I have read over, and to whom I trust you will accord a very hearty vote of thanks.

Major-General Sir THOMAS FRASER, in the absence of Vice-Admiral Sir R. N. Custance, K.C.M.G., C.V.O., seconded the resolution, which was carried unanimously.

Admiral-of-the-Fleet Lord WALTER TALBOT KERR, G.C.B.: I have great pleasure in moving, "That a vote of thanks be accorded to the Chairman, Field-Marshal Earl Roberts, for presiding." I am sure this resolution needs no words of commendation from me.

Lieut.-General the Hon. Sir N. G. LYTTELTON, K.C.B.: I have great pleasure in associating myself with Lord Walter Kerr in seconding this vote of thanks to Lord Roberts; and I do not think we ought to forget Sir George Marshall, who has presided over us since Lord Roberts' departure.

Major-General Sir G. H. MARSHALL, K.C.B.: I much regret that Lord Roberts had to go away. I am sure he would have very much appreciated the compliment you have paid him. That, gentlemen, concludes the business of the meeting.



# Royal United Service Institution.

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## SPECIAL PRIZE ESSAYS.

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### THE SIX BEST COMPETING ESSAYS

FOR THE

PRIZES OFFERED BY THE LATE

COLONEL STANLEY ARNOLD, C.B.

SUBJECT :—

‘The Best, least Irksome, and least Costly Method of Securing the Male Able-bodied Youth of this Country for Service in the Regular or Auxiliary Forces as Existing, and for Expanding those Forces in time of War.’

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SECOND PRIZE.	30 Guineas.	Colonel F. N. MAUDE, C.B., <i>p.s.c.</i> , 1st Hampshire R.E. (V.) late R.E.	28
THIRD PRIZE.	10 Guineas.	Major G. F. MACMUNN, D.S.O., R.F.A.	57

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SPECIAL MILITARY ESSAY, 1905.  
FIRST PRIZE (ONE HUNDRED GUINEAS).

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*Subject:—*

“THE BEST, LEAST IRKSOME, AND LEAST COSTLY METHOD OF SECURING THE MALE ABLE-BODIED YOUTH OF THIS COUNTRY FOR SERVICE IN THE REGULAR OR AUXILIARY FORCES AS EXISTING, AND FOR EXPANDING THOSE FORCES IN TIME OF WAR.”

*By Captain F. P. DUNLOP, The Worcestershire Regiment.*

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*“Tout citoyen se doit à la défense de son pays.”*

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## I.

BEFORE making any proposals for the solution of the recruiting problem, it is indispensable that we should understand the nature of the Services for which the armed forces of the Crown are maintained. The following question must be answered:—"Where and against whom will our Navy and Army be required to act?"

The majority of European Powers, unburdened by extensive over-sea possessions, can define their military needs to a nicety. With the British Empire it is far otherwise. There is no first-class Power in any part of the world with whom we are not in contact, either geographically or politically. There is no important nation of whom we can say: "Let them do what they will; let them expand in any direction they please, for their affairs are none of ours." Our dominions can never be an intrenched camp enclosed by a continuous ring of armed men; they are an open territory to be defended by the swift blows of a mobile force moved this way or that, as occasion directs. Our strategical problem, on whose right understanding depends the success of every military reform, is this: To recognise those political issues which might conceivably be referred to the arbitrament of arms, and then to devise a force capable of dealing instantly with the more pressing dangers, and of ready adaptation to the remainder.

The wars which we may have to wage are divided into two classes: small and great wars, affairs of Imperial police work, with which we are tolerably familiar, and wars on questions of world-politics, such as we have not fought since the days of the Crimea and of the Peninsula.

The experience of all nations tends to prove that the former are best dealt with by a professional standing Army, which is in effect no more than a large constabulary force. Such an Army we possess in our Regular Forces, which have successfully policed the Empire since they first went into garrison at Tangier.

Modern experience also proves that war on a large scale can only be waged with success by a whole nation, ready to reinforce large forces mobilised at the outset by every able-bodied man; by the employment, in other words, of far greater forces than the richest nation could afford to keep permanently under arms. We possess the nucleus of such a force in our Militia, Yeomanry, and Volunteers, on whom we shall have to depend in any great national struggle of the future.

Where may we expect this great struggle to take place? That is the harder question to answer.

There are two cases to be considered. First, the assumption of the direct offensive by our enemies, either against the United Kingdom or against some part of our outlying dominions; secondly, the necessary assumption of the offensive by ourselves, for the purpose of bringing our enemy to terms, or of causing him to desist from some line of action prejudicial to our interests. The invasion of Ireland by the French in 1798 and of Natal by the Boers in 1899 are examples of the first cause. The invasion of the Peninsula in 1809 to check the aggrandisement of France, and of the Crimea in 1854 to prevent the overthrow of Turkey by Russia are fair examples of the second.

Let us try to put ourselves in the place of a nation about to declare war on Great Britain, and desirous of crushing us with all

speed. The first and most tempting course of action is to strike at the heart of the Empire, to land in England, capture or drive out the Government, seize the factories and stores of war material, and reduce the naval bases from the landward side.

It is true that a certain school of strategists—sailors and politicians for the most part—absolutely deny the possibility of any invasion until our fleet has been beaten.

On the other hand, we have the opinion of Napoleon and von Moltke that such an invasion is feasible under other circumstances than a complete control of the sea. The latter of these two officers has at the least some claim to the position of an impartial critic. In fact, it remains to be proved that invasion is impossible.

Pending the production of evidence, it is our clear and bounden duty to be insured against a risk so alarming. If invasion came, it would come as a surprise, and we must be prepared to meet it with the utmost speed, before it penetrates our territory to any distance. For, even if these hypothetical invaders were foredoomed to ultimate failure, it is impossible to foretell the extent of the panic which their mere presence within a few marches of the capital would produce. Our defending forces must be capable of moving to the attack of the invaders not within a week but within twelve hours. It is indeed conceivable that a striking force of Regulars would be the proper weapon for the land defence of these islands, and that the slowly mobilised Auxiliary Forces would find their true rôle in those over-sea operations for which our naval power gives us the choice of time and objective.

There are only two great Powers in a geographical position to attempt such a raid on our home dominions. Those two are France and Germany; but there are two others, the United States and Russia, each of whom is capable of attacking us on the land frontier of an outlying possession. The military development of both Canada and the United States is only rudimentary. The latter have, however, by far the greater resources, so that in the event of war we should be compelled to furnish very great assistance to the levies of the Dominion.

The military organisation of Russia, whatever its defects, is still many times more formidable than our own, and the problem on the Indian Frontier is a double one. Not only have we to provide for the defence of our own territorial frontier, but also to protect the integrity of the buffer States which we have been at such pains to maintain beyond the border. The latter would appear the harder task of the two. If Russia were to advance directly against our territory, the advantage of rapid communication would be on our side; but if she were to commence operations by attacking Afghan or Persian forces on the far side of their territory, or, as the Premier suggests, by extending her railways into Afghan territory, it is we who would have to advance from our dépôts on the railway across an inhospitable country against forces posted within easy reach of the railhead south of Penjdeh.

To meet contingencies on this frontier, we can muster a force of from 150,000 to 200,000 men. The greater part of these—the Native Army—is a long-service force destitute of trained reserves, while the remainder is dependent on the Home Army both for its reserves and for its recruits. When the Home Army was mobilised for service in South Africa, it absorbed the whole of the reserves



and all available recruits. The Indian establishment was kept at strength by the retention of the men who would otherwise have passed to the reserve. Had it become involved in active operations and suffered any casualties, it would have been impossible to replace them, except at the expense of the forces in the field elsewhere. Our reserve is of insufficient strength to replace the casualties of active service in our Army abroad, and also to complete our regiments at home to their war establishment. In making proposals for the expansion of our forces in war time, we must keep in view the fact that a long-service force, equally with one recruited on a short-service system, requires to be fed with a constant supply of reinforcements, and that to use the sources of this supply as combatant units is to condemn the original fighting force to attrition and ultimate inefficiency.

Leaving the question of an attack on our territories, we have to consider the case in which the political offensive on the part of another Power might force us to assume the strategical offensive. Every European war in which we have engaged since the days of Marlborough has been of this nature. Our wars to check the growing preponderance of Louis XIV. and Napoleon in Western Europe, or of Russia in the Near East, though conducted on the strategical offensive, were essentially defensive wars from the political standpoint. In no case were we actually attacked, but in every instance our failure to act on the offensive would have laid us open to be attacked at a disadvantage in the immediate future. The present war between Russia and Japan is a striking instance of such operations; the political aggression of Russia clearly forced the Japanese to take the strategical offensive.

It is not impossible to suppose a parallel case at our own gates, in which Holland would play the part now assumed by Korea, and it is certain that a strong base of hostile operations on the Scheldt would be as incompatible with our national safety as a Russian arsenal at Masampho with that of the Japanese. It is not impossible to suppose aggression by a great military power in the direction of the Bosphorus or Adriatic which would constitute as grave a menace to our communications with Asia as past activities of Russia in the same sphere.

It is true that our existing military organisation, however much perfected, could never enable us to cope single-handed with a great Continental Power at her own doors. But the disturbance of the balance of power would always be viewed with concern by other nations than ourselves. In all probability our *rôle* would be the accustomed one of forcing the enemy to face two ways, and thus to lose his numerical superiority in the main theatre of land operations. As the Dual Alliance effectively safeguards France by threatening Germany with a war in the East, so might a well-planned descent on Schleswig-Holstein turn the balance of strength in Alsace-Lorraine. In the event of our interests being on the other side, an expedition to the Continent to the Gulf of Lyons, or, in a lesser degree, to Algiers, would materially hinder the despatch of men and munitions to the north-eastern frontier of France. Russian aggression towards Turkey or Scandinavia might well call for similar action, while in the case of minor Powers unpossessed of navies, a military expedition might be the only means of obtaining redress for wrongs inflicted on British subjects or British interests.



It cannot be too clearly understood that the possibility of our becoming involved in war with a civilised nation is by no means remote, that our claim to the position and privileges of a great Power is only valid so long as we are able to enforce it at need, and that terms of peace cannot be so enforced except from a point within the enemy's territory, which, in the nature of things, no battle-ship can reach.

Our chances of savage warfare need no discussion. The enforcement of the Pax Britannica is, indeed, no chance at all, but a familiar event of monotonously regular recurrence. Few people realise the preparations it entails and the number of lives it claims each year. To meet this drain is the first of our military requirements; only it should not be allowed to overshadow the remoter but wider issues.

Last, but not least, we require crews for our ships and garrisons for our naval bases. Whether the latter are furnished by the Army or the Navy is immaterial for the purposes of this essay; the numbers to be provided will remain the same.

## II.

These being, very roughly, our military requirements, what are "the Regular and Auxiliary Forces, as existing," which we maintain to meet them?

First, we have our Navy, whose recruiting is certified by the responsible authorities to be in a highly satisfactory state.

Considering the far harder life led by the sailor, it may be taken as evidence of the popularity of long service as opposed to the nine or three years' colour service, which must always be disastrous to the soldier; whatever their conveniences to his employer.

As, however, long service precludes the formation of any considerable reserve, it is not easy to see how casualties are to be replaced or new ships commissioned during a war of any length.

It is not necessary to deal with this deficiency of reserve as a separate question, for it is intimately connected with the question of military recruiting. If a satisfactory scheme can be devised to fill the ranks of the land forces, there should be no difficulty in diverting to the more popular Service as many men as may be held necessary.

Turning to our land forces, it must be confessed that they are deficient both in quantity and in quality. It is of no avail to mince matters; to recognise our failings and take steps to amend them is the truer patriotism.

We have a Regular Army sufficient, possibly, in cadres for the needs of our minor wars and for the peace garrisons of our greater coaling stations. It provides us with some 70,000 men in India, some 20,000 in the Colonies and naval bases, and, theoretically, an equal number at home.

But it is recruited on an entirely inadequate system, which fails to provide either the numbers or the quality of men needed for the most arduous of all professions, and which has long since reached the limits of its expansion.

One cannot blind one's eyes to the fact that, both in intellect and physique, the British recruit is hopelessly outclassed by the Continental conscript. For all his virtues, Thomas Atkins is the froth

of our social system—a waste product of the national industries, a man, as he himself is the first to admit, who has failed or feared to make his way in civil life.

“ Oh! come to the cook-house door, boys; come to the cook-house door!

Oh! that's what we 'listed for boys; that's what we 'listed for!”

Such are the words which he has set to the music of the dinner bugle, and the stock retort addressed to the recruit who gives himself airs is to ask why he was “ flying the flag of truce ” when he came up to barracks. Flying the flag of truce is an euphemism for displaying one's undergarments through the rents in one's outer clothes.

Neither can the present system of serving for nine years with the colours and three in the reserve produce an adequate number of reservists.<sup>1</sup> When the period of service was seven and five, the reserves were no more than sufficient to complete units to war strength. When the period is divided as at present, the number of reservists and also the number of men passed through the ranks in a given period is still further decreased.

In the case of three years' colour service, on the other hand, quality suffers at the expense of quantity. Three years' service under Continental conditions of recruiting and training are quite sufficient to make a good soldier.

The conscripts, as they are generally but inaccurately called, join at a fixed date in the autumn, have finished their recruit's drill and preliminary firing early in the spring, and are then ready to take their places in the ranks. Since their instructors have no fear of discouraging recruiting, training can be pushed to the extreme limits of exertion; the day's work is commenced before sunrise and continued until four or five o'clock in the evening.

In England it is far otherwise. Imagine the horror of a school-master whose pupils, instead of all joining at the beginning of the term, arrived in dribblets at odd times. Yet this is what happens in the hardest of all schools—the Army.

Add to this the fact that, in order to prevent the supply of recruits shrinking still further, the work has to be made as easy as possible. The average recruit does not join with the object of working hard; he is attracted to the Army by the fact that it is a cheerful and easy-going method of supporting life. Let it be rumoured by some discontented soldier on furlough that the work in such and such a regiment is over hard, or the punishment severe, and the recruiting for that regiment will fall off. So that in the long run the amount of work given to the soldier is very much what he sees fit to do, and no more.

These are the two great difficulties of a voluntary system: First, that recruits must be taken when they offer themselves, and not at the most convenient time for their instruction; and second, that their training must always be a compromise between what they ought to learn and what they are willing to undergo.

Our Regular Army is manufactured under difficult conditions from indifferent materials. If good results have at times been achieved with such inadequate means, one can only wonder what might have been accomplished under a better system.

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<sup>1</sup>Report of War Commission; Appendix.

This Regular force is capable of supplying our peace garrison in India and very small garrisons for certain coaling stations. The remainder—that is to say, the half of it quartered in the British Isles—is, as it stands, of little fighting value. By calling up the whole of the reserves and by improvising staffs and administrative services, it might be despatched to the front within a fortnight of the order to mobilise. One cannot call it a striking force for it would be absurd to expect effective co-operation from such an incoherent assemblage of units.

But, by the very fact of mobilising the Home Army, the units already abroad would be deprived of their sources of supply. If the reserves are with the colours of the Home Army they are no longer available for the purpose of reinforcing the battalions in the field. On the other hand, the home battalions, once mobilised, cease to fulfil their function as training schools at the very moment when the training of as many men as possible should be proceeding with the utmost despatch. The battalion cannot be used as an instrument of offence without abrogating its function as a training school, nor can it be used as a training school without losing its immediate value as a fighting unit.

The second line of our land forces is the Militia, maintained at present by voluntary enlistments, and trained for twenty-eight days each year. The argument raised as to voluntary service in the line applies to this body with redoubled force, for if, under the mild conditions of a voluntary *régime*, it is difficult to turn out a finished soldier in three years, how is one to be made in a few periods of four weeks?

Granted that this force has rendered good service on the lines of communication, and by relieving the Regular garrisons at home and in the Mediterranean. But the test of good soldiers is, and always must be, this: Whether they are individually and collectively as good as an equal number of any troops which may be brought against them. Judged by this standard, it is impossible that the Militia should do otherwise than fail.

This much, however, the Militia continues to give us: an organisation, imperfect, perhaps, in detail and badly officered, but which contains in its traditions, and even in its present state, the nucleus of a great national force, to which all those who desire to serve their country within certain limitations might be attracted.

The Yeomanry are officially classed with the Militia, but in their conditions of enlistment and training bear a closer analogy to the Volunteers.

The Volunteers, who, with singularly little encouragement from their fellow countrymen, have prepared, according to their means, to perform the first duty of citizenship, are some 300,000 strong. This force contains men of every degree of military proficiency, from privates who have just mastered the rudiments of drill and musketry to officers who have specialised on several subjects, who have learnt most things that are to be learnt from books, and lack only practice in the handling of men to rank with the very best.

Sad to say, this promising force is in no sense a field army. It is even more thoroughly divided into water-tight compartments than the other vessels of our military power. The men see little of each other or of their officers. The battalions often consist of isolated companies from different towns, who have no more real claim to be



called a battalion than two battalions dumped in the same field to be called a brigade. Some corps, it is true, have been brigaded together and have provided themselves with a rudimentary organisation of supply and hospital services; but their *ex-officio* brigadiers, the commanders of adjacent Line dépôts, have other duties as a first call on their services, even if they are not to disappear under the new system of grouped regimental districts. Other corps have not even this attempt at higher organisation in their favour.

Such are our military assets: a Regular Army with an insufficient reserve, hampered in its work of training by the quality and by the system of obtaining its recruits; a Militia which is only the shadow of a great possibility; and a Volunteer force which is no more than a crowd of armed men with a variable and unsatisfactory standard of military knowledge.

How are we to strike a balance between these small assets and the great debt for which we are individually and collectively liable to our country?

Our first impulse is to reply that nothing but our best is worthy the acceptance of so great a nation. The children of lesser Empires think the two best years of their lives, followed by further periods of service and an almost lifelong liability to be called out, no excessive sacrifice to offer for the honour and welfare of their fatherland. Can we, whose interests encircle the whole earth, and whose territories march with those of others at a dozen points, hope to secure ourselves against disaster at a lesser cost? The answer is a dubious one. That we could defeat any invasion of our territories with a smaller organisation is probably true; that we could impose our will upon one of the great Powers with less than the development of our whole force is improbable.

The question of expense is another factor in the problem. Even assuming that the burden of Imperial defence were made to fall equally upon every person in the King's Dominions, could we find the money to maintain an overwhelming navy and an irresistible army?

It is to be remembered that the introduction of obligatory service would not remove any appreciable portion of our existing burdens; it would still be necessary to provide a voluntarily enlisted force for foreign service, and that organisation for its training and recruiting which we know as the Home Army. Even assuming that the monetary cost were equally shared by our Colonies, the sacrifice of men must needs fall upon the United Kingdom. The conditions of life in the Colonies, where white labour is so much more precious than at home, and where all the whites in the colony would often be too few to cope with internal disorder amongst the natives, preclude the idea of taking two years from the colonist's life, or of employing him in large numbers outside his own colony.

Considering, then, the burden of Empire which we already bear, and considering the grave additional charges which would be placed upon us by the introduction of compulsory service, not only in yearly maintenance, but in a vast initial outlay for housing and equipment, we may fairly assume that it is no lack of public spirit which causes English public opinion to run so strongly against a military system based on that of the great European Powers, but rather an intuition that the additional burden would be disproportionate to the national resources, and that, protected to a large extent by our Navy and by the sea, we should be paying on a smaller risk an additional insurance

equivalent to that which other nations pay to cover the whole of the dangers by which they are threatened.

With a clear conscience, therefore, and with no sense of shirking the citizen's first duty from base motives, we may approach the problem of bestowing upon our youth a military training which shall be cheaper and less irksome than two years' service in the line, but none the less adequate to our needs, and capable of giving almost unlimited expansion to our armed strength in the hour of need.

By the terms of our reference, this training is to be obtained through the medium of the Regular or Auxiliary Forces, as existing. It is evident that the mere fact of filling these somewhat attenuated forces with the able-bodied youth of Britain would necessitate changes of detail almost amounting to a change of system. But, whatever changes are found unavoidable, we will bear in mind the principle of preserving three distinct but affiliated forces: the regular standing Army with its reserves, the national Militia, and the great reserve of Volunteers, corresponding in a certain degree to the Active Army, the Landwehr, and the Landsturm, of foreign Powers.

### III.

How are we to get the youth of the country into these three forces, which we accept as the basis of our designs?

The first difficulty to be faced is, that we belong to a self-governing country, and that, whatever the excellence of our schemes, we cannot alter the existing state of affairs in any respect without the consent of the electorate. Therefore, the first process is to convince the voters that an expansion of our military system is necessary, and to inspire them with enough patriotism to make the necessary sacrifices.

I speak of sacrifices advisedly, for, although we are searching for the least costly and least expensive method of filling our armies, it is sheer folly to think that such expansion can be obtained except at a price.

Now it is not an easy matter to influence the electorate in a question of such far-sweeping issues. It is only one man in a thousand who lives half a life-time without getting into a mental groove, which makes his outlook on the broader aspects of life a very narrow one. To think in continents and empires is above the unaided powers of a man whose personal interests are circumscribed by his parish boundaries.

However, there are certain exterior influences which can be brought to bear upon the slow wits of the public. The greatest of these is one for which we may always hope, but upon which we can never count. That is the advent of a leader of thought, of a great statesman or publicist, whose personality will appeal to the popular imagination, and whose words will wing their way into the dulllest of hearts.

There is a second influence from which we can only pray to be spared. That is an object lesson, an ordeal by fire, such as those from which have arisen a new Germany and a newer France.

There are still two powers by which we may well hope to move the dull weight of public opinion. Of these the first is, to a large extent, in the hands of the State. The second, although not State-controlled, is in the hands of able men, whose profession naturally



brings them into touch with the wider interests of the Empire, and of the world at large. I refer, of course, to our schools and to our public Press. Their power over the opinions of our youth and manhood is too great to be appraised in words, and on them we must depend for a wider recognition of our Imperial birthright, and the obligations which it entails.

Let us therefore begin by impressing upon all those who attend church or school, and all who read newspapers or books, that every citizen is personally responsible for the defence of the State under whose protection he exists. Let us familiarise the public with the inner workings of our military life. Let us invite inspection of our soldiers at work and at play. Let those of us who are in the Regular Service avoid the tendency to consider ourselves a caste apart, and to dissociate ourselves and our profession from the social system of which we form indispensable units.

In plain English, let us advertise and let us do it handsomely, not through the medium of small and inartistic posters outside a police station, or an occasional dingily-dressed pensioner on the kerb stone. If posters attract men, let us have the brightest and most artistic which money can buy. If the uniform is an inducement, let our officers make sacrifice of their modesty by wearing it in public, off duty. No one wishes to deny that the wearing of mufti was a necessary concession in the days of throat-cutting and unpractical scarlet uniforms, but it passes comprehension to see why one should not go shooting or golfing in service dress, nor dine out of barracks in the very comfortable kit one wears at mess. The wearing of mufti entails the duplication of almost every article in the officer's wardrobe, from boots to collars, with expense to himself in buying them, and expense to the State in transporting them all over the Empire. The only plea in favour of mufti, other than that of old established custom, is, that officers in uniform would have to behave with greater propriety and circumspection than at present—an argument which cuts both ways. But there could be no more convincing answer to the widespread prejudice of the middle classes that soldiering is hardly a respectable profession than the daily presence of the uniform elsewhere than in the meaner quarters of our large towns. And this prejudice against the army is one of the greatest obstacles to recruiting.

In France, literary works of striking military merit are "honoured with a subscription" by the Minister of War. It would pay us equally well to set aside two or three thousands a year to be paid as premiums, not only on military works of technical merit, but also on such as were likely to popularise the service with the public. The Army has everything to gain and nothing to lose by publicity; it is disliked by those who know nothing of it, and loved best by those who have served in it the longest.

Having thus persuaded the public of the duty that they owe to their country, and having demonstrated that the soldier is not necessarily an outcast or a martyr, the schemes which we are about to introduce will stand a chance of being impartially or even favourably considered.

I propose to take our problems in an inverse order to that in which they are set forth; to deal first with the provision of cadres, then with the expansion of our forces in time of war, and lastly, with the recruiting of the Regular Army.



## IV.

The first difficulty to be overcome in establishing a school, whether of arms or of classics, is the provision of an adequate staff of teachers. If the whole Nation were trained in arms up to the standard required of a smart private soldier, our case would be little better than at present, unless we possessed a body of thinkers and leaders, the brain and nerve to co-ordinate and direct this great mass of animal strength. Time and again a single master-mind has organised apparently useless material into a formidable weapon of war. Time and again the greatest bravery and skill at arms has failed before forces of less individual value, but more scientifically led. The retreat of the Ten Thousand, the conquest of Hindostan, the defeat of the French levies on the Loire by inferior numbers of Germans, are only a few of the instances which should confute the advocates of hedgerow riflemen.

Our present military educational establishments are incapable of supplying the officers required for the Regular Forces alone. For every officer of the Line who passed through Sandhurst, there is another who entered the service through the Militia; that is to say, by an unsatisfactory process, which lends deceptive appearance of strength to the Militia, and in no way guarantees that the officers so obtained have that good general education which is indispensable for the man who aspires to be more than a mere repeater of his superior's orders. Such a system further implies that in the event of war, when the demand for officers is increased, the Militia is immediately deprived of all its best junior officers, and their places filled by lads with even less military knowledge than the men they are to command.

The corps of officers contains a proportion of rankers. There is no better school of primary soldiering than the ranks. But the apparent value of the ranker is discounted by the fact that those who choose this mode of obtaining a commission usually do so because they have lacked either the application or the brains to pass the Sandhurst and Militia tests. Consequently, like all who have a difficulty in thinking quickly, they display a tendency to rely on the judgment of others, which spells lack of initiative.

Nor can entrance through the Universities be regarded as a serious means of filling the deficiency, for the excellent reason that no man who wishes to do well in his profession will ever choose a method of entering it, by which he begins at three or four and twenty, on the same footing as boys of nineteen, who have just left Sandhurst.

There can only be one right way to recruit officers for the permanent cadres of our land forces, whether of the standing army or of occasional forces such as the Militia and Volunteers. That way lies through a properly organised military college. If one military college is incapable of turning out enough officers, other similar colleges must be established. Any other methods of raising officers must be regarded as mere makeshifts.

If great care be required in the selection of Regular officers, who have the greater opportunities of self-improvement after joining, *a fortiori*, our Irregular troops, whose opportunities are infinitely less, must have even better and stronger cadres, if they are ever to stand against Regular troops. Good officers can do a great deal with indifferent men; indifferent men with second-rate officers are best out

of the way. Granting that the bulk of the Auxiliary rank and file can never have a thorough military training, none the less, an Auxiliary regiment with Regular company leaders would be as different from the Auxiliary regiment with no Regular officer but the adjutant as a regiment of Haussas or Soudanese with white officers from a horde of "friendlies" led by their own chiefs and only indirectly controlled by a single political officer.

What, then, is the cheapest and least irksome method of training so many officers?

Sandhurst supplies about half our Regular officers of the cavalry and infantry, Woolwich supplies practically the whole of those for the artillery and engineers. It would therefore take three such military colleges to furnish the full quota of Regular officers.

The Militia would require two more; the Yeomanry and Volunteers four or five. In fact, we may reasonably assume that it would take nine or ten colleges to supply the whole of the officers whose names appear in the Army List.

The construction of nine new Sandhursts cannot be called a cheap measure; but why create new schools? Why not make use of the existing educational system? The difficulty would be solved at once by transforming a number of our public schools into military colleges on the lines of West Point, where the best of military trainings goes hand in hand with a splendid civil education, and whose graduates are equally fitted to serve their country as officers or as private citizens.

Of all the lessons to be learnt from the War of Secession, the most obvious is that of the immense difference between raw levies led by civilians and men of an identical stamp led by old West Pointers.

Let our public schools approach the question in a public spirit, and it will soon be seen how well military training and intellectual education can run in double harness. The change would be one of names and appearances rather than of traditions or method. The duties of a house-master and a company commander, of assistant masters and subalterns, of prefects and non-commissioned officers are practically the same. Nor would there be any need to alter the general lines of the instruction now imparted. It would only be necessary to substitute for certain fusty forms of knowledge other aspects of the same subjects which, while possessing equal or higher value as mental gymnastics, would also be of practical use from a military point of view.

Let the dusty records of dead nations be replaced by the political and military history of modern times.

Let a knowledge of the Roman constitution of consuls and praetors, of plebes and equites be replaced by a knowledge of the constitutions of the British Empire, of Lords and Commons, of Crown Colonies and Houses of Representatives, of our political, commercial, and military organisations.

Let our somewhat flagging interest in the Wars of the Samnites and the petty squabbles of Greek villages be transferred to the wars of the eighteenth and nineteenth centuries, from which sprang modern Europe.

Let us forsake Aegospotami for Trafalgar, Marathon for Waterloo, the Metaurus for the Borodino. What can it profit to rake in the ashes of a remote past, when a new and more wonderful Salamis



has been enacted before our eyes? Let us cease to discuss *hastati principes* and *triarii*; the firing line, supports, and reserves are more worthy of our attention. Has there been no valour since Troy? The line of Minden, the terrible column of Fontenoy, the storm of Badajos, the fatal hill of Albuera will give a keener inspiration to the soldiers of to-morrow, as they are nearer and easier to realise. Every brave deed of ancient days can be matched with another in which our own flesh and blood took part, and while the doings of Horatius Cocles or Hannibal's pioneers before Saguntum must seem in the nature of a fairy tale to modern children, the story of Rorke's Drift or of the Cashmir Gate is a glimpse into that real life of the present which boys are always thirsting to explore.

One of the few subjects whose mastery never seems to have been a waste of time is drawing. This can lend us great aid in the making of officers. The eye for line and proportion which we now seek to develop by the copying of arabesques and acanthi, and the reproduction of ruined mills and chalets, might be better trained by the processes of military topography, the traverse, the eye-sketch, the representation of hill features, and by the allied art of judging distance. There is no more valuable military asset than that "eye for country," which nothing teaches so well as the attempt to represent country on paper, and which lends a new significance to every walk we take. The scholastic method of teaching drawing is of no value except to the pupil; the military method would profit both the pupil and his mother country.

There is another branch of an officer's training which here calls for attention, and that is field engineering. This science is largely a matter of theory, which can be taught from books and from models. I may be prejudiced, but I should consider the construction of a frame bridge quite as useful a form of mental exercise as the intricacies of that other bridge called "asinorum." And the boy who would not cheerfully devote a few winter afternoons to the construction with light tools of trenches and traverses, of huts and block-houses, and who would not be delighted to apply his book-learned knowledge of bridging to "the real thing," must be a very unpleasant product of modern society, who has never felt the delights of playing at Robinson Crusoe or making castles in the sand.

If, in addition to these changes, half the endless summer afternoons now devoted to cricket were appropriated to tactical training and to musketry, much would be gained and nothing lost.

Under such a system, which would render immeasurable service to the State without acting to the detriment of the individual, and which would cost nothing to either, every boy who reached the fifth form at a public school would be equipped with the whole of the technical knowledge required for a thoroughly good non-commissioned officer or subaltern, for the ideal section leader of modern battle conditions. The practical knowledge, the habits of command and authority which come from long use, would not be developed to the same extent; but much might be done towards this desirable end by an extension of the existing monitorial system, and, in fact, by the militarisation of the whole school administration. At present a few of the elder boys are invested with ill-defined powers of supervision and discipline, frequently neglected and sometimes abused. It would be better for all concerned if each house were organised as a company and sub-divided into sections and squads commanded by boy sergeants



and corporals, who would be as directly responsible to their captain—the house-master—for the order and discipline of their commands as are the non-commissioned officers of the Regular Army.

Military considerations apart, this system would have an immense moral value from the purely scholastic standpoint. Through his subordinates the schoolmaster would acquire a hold on his boys, and a knowledge of them which he has never yet had. The boys themselves, instead of being permanently banded against authority as at present, would become keenly interested in its maintenance. What the school-boy dubs his “honour” would cease to be what the soldier calls “screening crime.” Without a doubt the military system of devolved command is immeasurably superior to the scholastic plan of centralisation.

This contention will commend itself to any soldier who cares to reflect on the probable condition of the Army if non-commissioned officers were abolished and no intermediate authority left between the captain and his private soldiers.

I have dealt thus far with the question of military training in our public schools for two reasons. First, because the recruiting of officers is at once more important and more difficult than the recruiting of men; and, secondly, because there is no fundamental difficulty in the way of starting such a system of instruction as I have proposed. If the public utterances of the masters of our great schools are to be believed, they are fully convinced of the necessity for training the youth of the country to arms. Let them make good their words. The initiative is in their hands, and in those of the governors whom they represent.

There are certain schools which set the standard for the remainder. Any lead on their part is bound to be followed by the lesser-known schools, and also by the great mass of preparatory schools, from whom their pupils come. And if all the children of the upper classes were to receive a military training, the political leaders of the lower classes would be compelled to demand the extension of this privilege and obligation to themselves, for the very good reason that the monopoly of military knowledge is a power which no party could allow to their opponents. Primary military education in the National Schools is the natural correlative of military training in the secondary schools. It seems so simple as to amaze one by its non-existence. A little drill, a semi-military organisation such as that of the Boys' Brigade, miniature rifle practice for children over ten, a pride in the flag, and the honourable deeds which have been done in its shadow; these are all the means. The result would be an entire nation sufficiently trained in military matters to understand the gravity of war and to appreciate its difficulties, with an inexhaustible manhood ready at the first note of alarm to take their places in the Regular or Auxiliary Forces as existing and in any additional forces raised for the emergency.

With an entire nation trained to drill and shoot, with many thousands “capable of commanding a section under all circumstances,” little would remain except to mobilise. Six weeks should be sufficient for such material to be brought into hard physical condition, to shake down into its place, and to acquire such small knowledge of tactics and field craft as the private soldier requires. Aided by the enthusiasm which the imminence of war provokes in all ranks, such

troops would be ready to take the field long before their transport and supply could be arranged.

So far from being irksome, such a course of military instruction at school would be a constant delight. Its expense to the State would be that of supplying card-board targets and Morris tube cartridges at five a penny, and a small initial outlay for the actual tubes and the miniature ranges—ten pounds, perhaps, to each school affected. In view of the recent re-armament of the cavalry, sufficient carbines should be available for use with the tubes and for musketry drill purposes.

If considered necessary for ordinary drill purposes, dummy rifles should not cost more than a shilling each. If, in addition to being neither costly nor irksome, it provided for the fullest possible expansion of our forces in case of war, it may also claim to be the best solution of an urgent national question.

There is one other point which I would urge, a trifling one, it may seem to those who count strength by guns and ships, but of the deepest importance in the eyes of those who place *morale* above every other consideration.

Our girls must share with our boys the benefits of military instruction; not, indeed, with a view to taking their place in the ranks, but to fit them for the even higher duty of rearing loyal and honourable citizens. At their mother's knees, and from their mother's lips, the sources of all right and noble inspiration which ever urged man upwards, must man learn the religion of soldiering, the meaning of those great ideals which are worded in trumpet deeds of honour, discipline, and self-sacrifice.

Granted a national sense of duty to the Motherland, and a knowledge of the elements of war, I see no occasion to discuss the details of the system under which these assets would be utilised. That is a matter which requires a knowledge of the working of our political, financial, and military machinery, to which no outsider can honestly lay claim. Compulsion would not be necessary, for of those who had once experienced the fascination of soldiering, a majority would avail themselves of the Auxiliary Forces to renew the associations in after years, while recruiting for the Regular forces would be stimulated by a better understanding and deep sympathy between the soldier and the civilian, who would come to realise that, in addition to being one of the noblest and most necessary of professions, soldiering is also one of the happiest and fullest of lives.

The higher education of officers for the Auxiliary Forces, and the ensurement of such a flow of properly-trained cadets, as to fill the regimental lists of the Regular Forces without depleting those of the Militia, are more difficult problems, which must be dealt with by more detailed measures, and which will be expensive in proportion to their importance.

At about the time when he reaches the upper fifth form, the proposed candidate for Woolwich or Sandhurst specialises by joining the Army Class which exists in almost all public schools. It is true that the instruction of those classes had little of a distinctively military character, being rather in the nature of a "cram" in the subject of general education, which compose the cadet's entrance examination.

We have, however, suggested that certain subjects, now used to obtain that state of mental receptivity known as a liberal education, should be replaced by others of equal value as mental gymnastics,



with the added merit of a present military use. The natural correlative of such a reform is, that the test of candidates, still following its purpose of ascertaining their degree of mental development, would be based on the subjects in which they had previously been instructed, that is to say, on subjects of a modern and quasi-military nature rather than of a classical and purely impractical character. In fact, the examination on leaving school would so closely resemble that now held on leaving cadet colleges, that officers might well be commissioned direct from school and begin to learn the applied duties of their profession, where they now commence to master its alphabet. The present system, under which the State has to teach the rudiments of their art to those whom it employs for military purposes, is as though the railway contractor had to teach his navvies the use of the spade, or the merchant to teach his book-keeper the four rules of arithmetic.

Our proposed system may then be considered to simplify the question of training officers for the Regular Forces. Given the prospect of direct entrance upon a career, which, though we should never desire it to become lucrative, must, of necessity, be so altered in its conditions as to afford a living wage to its followers, there should never be any scarcity of candidates for commissions in the standing Army.

It remains to be seen how far those who specialise for other professions, equally necessary to the welfare of the State, can be made available for the position of reserve officers, of subordinate officers in the Auxiliary Forces, or of officers in the extraordinary levies, which it might be necessary to raise in a grave national emergency.

Considering the rosy hues with which the human heart tinges all things seen in perspective, we may fairly assume that the great majority of those whose boyhood had been passed in quasi-military surroundings, would ask nothing better than to renew those associations by joining the Auxiliary Forces. The question of means, which now deters so many would-be soldiers, must be removed.

It is for the individual to give his person, and for the State to defray the cost, in the case of private and officer alike.

To those whom sentiment or inclination failed to move, a little judicious encouragement might be applied. For example, the granting of an university degree might be made to depend on having served with credit in the University Volunteer Corps, which, instead of occupying itself, as at present, with the A.B.C. of soldiering, should be rather in the nature of a modified Staff College or School of Instruction in "C and D" signalling, advanced musketry, and technical services generally. A leaving certificate from such a corps should be sufficient evidence of having kept terms, and should be accepted in lieu of any fees now charged for the degree, the amount thus lost to the university coffers being made good by the Government in the shape of a generous capitation grant on every student certified to have thus qualified himself for the position of officer.

Furthermore, a generous system of rewards and scholarships should be instituted by the State for those graduates who passed through their corps with "honours" in the shape of special military qualifications, so that poor students, who proved themselves of special utility to the State, might reckon on receiving a cheap education as well as those who now show themselves likely to do credit to their



colleges by superior classical attainments. Two hundred military scholarships of eighty pounds a year for three years would cost the State £48,000 yearly—about half the expense of maintaining a single regular battalion. And for this the State would acquire a reserve of highly-trained officers more than ample to meet any possible demands.

On these lines we should have provided for the almost indefinite expansion of our forces in time of war. A whole population trained in the rudiments of arms, many thousands qualified to act as non-commissioned officers, and many hundreds well prepared to assist the permanent cadres of officers in leading these masses up the steep ascent of duty and sacrifice, at whose summit stand the gates of victory.

## V.

Having dealt at length with the question of expanding our forces in time of war, and of attracting our manhood to the Auxiliary Forces, it remains to provide for our current military needs in the shape of recruits for the standing Army.

Let us commence by dismissing the two methods which have been tried of recent years. These methods are first to raise the pay, which is already extravagant; and secondly, to lower the physical standard, which is already too lenient. They can only be regarded as temporary expedients of an unworthy nature.

As things stand, recruiting is the most difficult and most pressing of all our military problems. It is true that the number of candidates who present themselves each year is largely in excess of our requirements. It is equally true that nearly one-third of these are rejected for medical reasons, and that if all men obviously under eighteen years of age were refused, the rejections would amount to nearly two-thirds of the applications. In fact, our enlistments are only kept approximately abreast of our needs by varying the physical standard according to the state of the recruiting market.

Be it observed that the objection to men under eighteen is based on the medical dictum that no man should be sent to a tropical climate until the age of twenty. By accepting them we place ourselves in a dilemma, for to detain men at home who are enlisted for service abroad is an extravagance, while to send them abroad before they are fit to withstand the climate is unpleasantly like murder.

Nor is this the worst of the case. Its gravest indictment is, that our recruits are drawn from the lowest and least intelligent classes of the population. A large proportion of them enlist because they are too lazy or too stupid to make their way in civil life. Another section, the best, perhaps, join the colours because they have got into trouble and find it desirable to absent themselves for a few years from the vicinity of their homes. I do not imply that this trouble is usually of a criminal nature; it may be that the recruit has loved unwisely; that he has had high words with a powerful employer; or that he has in some venial way scandalised the narrow society of his particular church or chapel. It may only be that he has over-run his small weekly wage by some trifling act of extravagance, and finds it impossible to make ends meet again. The extent of his folly is immaterial; the point is, that he has shown himself of unsteady mental balance, of rather less than the average moral standard, and that

while the highest standards of conduct are exacted from the constable who guards the morals and hen-roosts of some obscure village, any wastrel is considered good enough to protect the honour of England, the lives of an army, and the prosperity of the British Empire.

No doubt many of these wastrels eventually become excellent soldiers. No doubt military discipline is the making of many such men. All that is beside the point. The army exists for a specific end, which is to train men as quickly and as economically as possible to defend their country, and to keep a certain number always ready for that purpose. High philanthropy is not in the province of the War Department.

The time needed to make an efficient soldier depends upon the quality of the raw material. *Ceteris paribus*, the more intelligent man will make the better soldier. And yet we continue to accept recruits of the lowest mental standard, knowing, at the same time, that in other things, in physique, in opportunities for training, in equipment, they are not on a level with the soldiers of the Continent. It seems a mathematical certainty that one-thousand British recruits of two years' service would be as hopelessly outclassed, outmarched, and outmanœuvred by a thousand two-year men of any Power which enforces universal service, as that they themselves would outmatch a thousand Militia of the same length of service.

What we want is to find some method of putting this to rights, which will enable the State to command the labour market, and to choose the men best suited for its purpose, instead of being fain to accept those whom other employers have refused.

How is this to be done? There can be no question of compulsion; the first condition of obligatory service is that it should fall on all alike, whereas the State requires comparatively few for its standing Army. Besides, garrison duty in an obscure and unhealthy tropical cantonment is a different matter from a course of military training at home.

A standing army in the true sense of the word must needs be a mercenary force. The armies of modern Europe are, more strictly speaking, Militias with a period of consecutive training lasting for one, two, or three years, while a standing army may be defined as a force whose members are enlisted not only to learn the art of war, but to remain with the colours after they have mastered their duties, for the purpose of rendering some specific military service. Every citizen may justly be required to render himself capable of defending his country in an emergency, but we cannot expect him to perform police duties year in and year out without adequate remuneration in coin or in kind.

If we compare our military institutions with those of France, we shall see that, although the proportions of the two forces are unequal, the British Regular Army is analogous to the *engagés volontaires* of the French Colonial Army, who enlist for five years; that is to say, for three years after the completion of their military training, with every encouragement to re-enlist for further periods of five years, while the National Army of France, whose soldiers join the colours for the unique purpose of receiving their military training and pass to the reserves on its completion, are more nearly related to our Militia and Volunteer forces.



In France, where the Standing Army bears a comparatively small proportion to the population and to the armed forces as a whole, recruits are attracted by the following means:—

1. By a system of "service pay," under which, after completing the period of colour service which every Frenchman owes to his country, the *engagé volontaire* receives a relatively high rate of pay, which, bearing in mind the lesser cost of living, was not unequal to that of the British soldier before the concessions of 1898 and 1902.
2. By a system of bounties payable on completing certain periods of service, and on signing on for further terms.
3. By the granting of modified pensions after no more than 15 years' service, and the *right* to certain minor posts in the civil services.

Recruiting for the *armée coloniale* is aided by the higher social status of the soldier in France and by the fact that a five years' engagement only implies three more years with the colours than every citizen is bound to give. It is impeded by the smallness of the floating population, caused by the prosperity of agricultural France, and the system of divided inheritance which disinclines the children of property holders to seek a fortune outside their own villages, and by the deep aversion of all Frenchmen to leaving their native soil for any length of time.

Every Frenchman is not unreasonably persuaded that France is the best of all countries to live in, and is therefore incapable of resigning himself to a prolonged residence abroad.

This feeling necessitates an elaborate system of reliefs, on the principle that the soldier is entitled to serve for a year in France after every three years' service abroad, and even with the aid of subsidised lines, such as the Messageries Maritimes, must entail great expense.

In spite of the advantage gained by the power of appointment to the civil service, and in spite of the comparatively small force required, France has never quite solved the problem of recruiting for service abroad, and has to eke out her forces with the *Légion Étrangère*.

Our own recruiting problem is rendered more difficult by the greater size at which our Standing Army must be maintained, and by the fact that it has to furnish certain necessary garrisons at home, and to provide the mobile force under whose cover we expect to mobilise our Auxiliaries against invasion. The maintenance of a Regular force at home, coupled with the command of the sea, further enables us to keep our foreign garrisons at a lower strength than would otherwise be the case. If we stood to lose command of the sea, the garrison of every Colony would need to be sufficient in itself to deal with any possible emergencies; as it is, we can hold a smaller force in reserve in England ready for despatch to any centre of disturbance.

Recruiting in England is also gravely hindered by the contempt for soldiers and soldiering which exists among so large a section of our lower and middle classes. Two hundred years of recruiting from the gutter have established a feeling that the soldier is a degraded creature, and his profession to be avoided by all respectable folk. There is a story current in barracks which illustrates this standpoint. A Dissenting minister was holding forth on the awful example set by



a backsliding member of his flock. "Yes, my dear brethren," he exclaimed, "think how this poor young man fell from grace. He began by staying away from chapel. Then he took to playing cards. Then he took to drink; and then, my dear brethren, and *then* he enlisted for a soldier!"

Perhaps the most serious of all impediments is that want of co-operation between the various Departments of State, and even between different branches of the same Departments, which is a regrettable feature of English public life, and which at present precludes our offering an inducement so cheap to the State and so priceless to the soldier, as the certainty of employment on the expiration of his colour service.

On the other hand, we are aided by the existence of a large town population, bound to the land or to their present occupations by no other tie than the necessity of earning their bread. If the opportunity be offered, such people will always change their occupation to "better themselves," as their phrase has it.

It is a further assistance that our population has, as a whole, no sentimental objection to going abroad. It is safe to assert that for every man who is deterred from enlisting by the prospect of foreign service, three better men join the Service for the sole object of seeing the world.

None the less, it is plain that our existing system and inducements fail to assure a continuous supply of suitable men. The flow of recruits varies from year to year, the conditions of service have varied even more often; but attempts to couple these variations as cause and effect are not convincing. In the opinion of many experienced officers, the average recruit never thinks at all at the time of his enlistment; he is too young to understand the exact value of money or the meaning of time; a shilling or seventeen pence, three years or nine are vague terms which trouble him little. Either he is hungry, in trouble, or in search of adventure; in no humour, at any rate, to weigh the pros and cons of his undertaking, even if he were clever enough to do so, while the recruiting harpy, thirsty for his half-crown of head-money, takes care he shall not understand too much. But this source of supply is taxed to its utmost; if it is to be increased or improved, we must tap another stratum of more responsible men, and to these we must prove that the uniform is neither the soldier man's disgrace nor the ruin of his after life.

The main attraction we now offer is a high initial rate of pay, increased on the soldier's reaching a certain standard of efficiency by the grant of messing allowance, and on his extension of service by service pay.

The actual figures do but scant justice to the generosity with which the soldier is paid. From the day of his enlistment the infantryman clears about four and sixpence a week, which means that after buying a necessary addition to his rations in the shape of supper—price threepence at the regimental coffee bar—he has over two shillings a week for tobacco and amusements. After a few months he receives another fivepence a day. After two years he can earn another sixpence a day, which brings the amount at his absolute disposal to about nine shillings a week, which there is nothing but his own extravagant habits to prevent his putting in the bank.

What is more, a little zeal and intelligence will bring promotion within the first year of his service, and the almost immediate enjoyment of about eleven shillings a week.

How many civilians, starting at eighteen with no capital or qualifications other than health or good will, can expect to be as well off by their twenty-first year? Not many, I think.

Perhaps this high pay and the prospect of seeing the world are the sum total of the attractions we offer. The uniform, in spite of its transient effect on the hearts of the other sex, is a drawback rather than a source of pride to the soldier, and will remain so until the Army comes to hold an altogether different place in the public esteem. The usually light day's work and the security of tenure are rather more than counterbalanced, in the opinion of the men themselves, by the perpetual sense of restraint, the endless waiting about, and the surrender of individuality entailed by the gregarious life of barracks. Above all there is the feeling that unless the soldier has proved himself of essentially higher ability than his comrades, the future holds nothing for him but a return to civil life, heavily handicapped by having given three or more of his best years to the National Service.

What else can we offer?

A further increase of pay is out of the question. Every farthing that can be saved from the drain of current expenses is needed for such pressing purposes as the replacement of obsolete *matériel*, the provision of training appliances, and the better housing of all ranks.

The least considered person in the British Army—the regimental commissioned officer—must be given a living wage. Then, perhaps, there will be spare millions to increase the already exorbitant pay of the private soldier.

A further relaxation of the bonds of discipline is absolutely inadmissible. A voluntary Army, where the recruits have to be coaxed and pampered to make them enlist at all, which is governed under an Army Act of extraordinary leniency, hedged about with safeguards that impede the prompt execution of justice, is the very last force to make light of such moral aids as the punctilious rendering of salutes, the irreproachable turnout in uniform, the keeping of early and regular hours, and such tests of steadiness as close-order drill and guard duties.

Better messing is higher pay under another guise, and only means that the soldier will be provided through the mess-book with what he now buys at the coffee bar. And experiment has proved that the amenities of the table have a very doubtful attraction for the recruit-giving classes.

There is one and only one practical solution to the question, and that the simplest and cheapest, and the most readily attained of all. No new principle is involved; it is nothing but the realisation of a pious wish, a counsel of perfection which men of every party have admitted to be desirable, but which none have had the courage or perseverance to carry out.

The solution is this: That service in the armed forces of the Crown must be made either a career in itself or the stepping-stone to a career; that to have served in the Army must become a help and not a hindrance in the struggle to live.

To a few men the Army affords a career even now. In every regiment and battalion there is a quartermaster who has risen from



the rank of private to a position of comparative ease, with a pension which, although it does not err on the side of generosity, is sufficient to assure his future. But quartermasters are few and their tenure of office long. Taking it at ten years, it means that only one recruit in two or three thousand can ever obtain an honorary commission, and a hasty word of a momentary dereliction of duty are often sufficient to annul the efforts of a dozen years.

There are many minor posts to which the well-conducted soldier may aspire as a non-commissioned officer; but such positions of comparatively brief tenure and entailing retirement at the age of about forty on a pension quite inadequate to support a family cannot be said to constitute a career. The pensioned colour-sergeant, for example, must seek employment to eke out his means, and that we do not hear more often of ex-sergeants in precarious circumstances is a high tribute to their value.

The better class of working man is quite shrewd enough to see:—

1. That a man who is good enough to become a colour-sergeant can find a better market for his abilities in civil life; and
2. That the chances of becoming a quartermaster are too small to balance the risks of failure.

If we are ever to get this better class to the colours we must convince them that every decent man joining the Service will be assured of continuous employment as good as that which the like abilities would command in civil life. Assuming that a continuous military career cannot be found for every recruit, he must at least be guaranteed that on quitting the colours he will be able to assume that place in the world which he would have held had he avoided the Service of the Crown. As long as the man who enlists at the age of eighteen knows that he will presently be turned adrift with three, seven, or nine years absolutely to the bad, so long will the industrious and intelligent decline to become soldiers.

It is a clear case of Protection. The State must protect its military employés from what are now the consequences of their enlistment in the same way that it protects its other employés, in the post office, for example, of whose trades the Government holds a monopoly, and whose acquirements have consequently no value in the open market.

In the case of the post office, this protection is afforded by security from dismissal except in the case of misconduct, and an adequate pension graduated according to length of service and the position held on retirement. As soon as the post office servant comes "on the establishment" he is assured of his daily bread to the day of his death, and so highly is this security of tenure valued by the working classes, that there is never any lack of candidates at a relatively low wage.

There are certain difficulties in the way of securing continuous employment to soldiers which do not apply to less arduous careers. The first and greatest of these is that the period of a man's utility as a soldier, of his capacity for hard physical work, is not concurrent with the term of his natural life. Speaking roughly of the better class recruit, from whom our non-commissioned officers are made, the soldier is from three to five years in the making. He is at his best from the



fourth to the twelfth year of his service. During the next ten years he is still good to go, but has passed his physical prime, and loses in activity and endurance what he gains in judgment and experience. From the age of about forty he is going down hill; he is no longer capable of hard physical work, and rarely capable of receiving new impressions or adapting himself to changed circumstances. At forty-five he is past all outdoor work, and at fifty he ceases to give value for his wages in any shape.

Although the course of evolution and devolution is similar in all cases, the length of the periods varies considerably in different classes of men. In the upper classes the period of development is longer, and that of decay comes later than above enunciated, owing, no doubt, to more favourable conditions of life in childhood, to a later commencement of life's serious work, and better opportunities of periodical recuperation. For converse reasons the prime of the lowest classes is very much shorter. The worst stamp of recruit, like the members of less civilised races, is an old man at thirty and past all work at forty.

Whatever the precise length of the period of utility, no one will deny that the soldier is past work as such at a comparatively early age, and that this must be seriously taken into account in any scheme for his continuous employment.

The age limit for civil servants is sixty-five. The number who reach this age is relatively small, and the number who live to enjoy their pension for ten years very limited. But the soldier must be otherwise provided for at far too early an age for any system of pensions, however sweeping, to meet his case. That he must receive assistance is certain; but in return he must be required to render such services as lie within his abilities.

As we have said above, the soldier is three or four years in making. It is true that Continental nations are adopting two years' service, and that foreign Line officers express confidence in their ability to train men in that time. But we must never forget in our eagerness for efficiency that our Service is a voluntary one, and that our recruits cannot be worked at the almost brutal pressure maintained abroad. What our recruits are willing to undergo acts as a perpetual safety-valve to what we can require of them. The conscript's military training is merely an interruption of his normal career, and, so far as it is in human nature to like work, he welcomes any change which makes it possible for him to have done the sooner with a necessary but not always pleasant duty. With the Volunteer it is not so. If he knows that soldiering is harder work than civil life he will not enlist. His instruction must therefore be conducted more gently, and, even assuming adjustment of system to prevent loss of time between the date of enlistment and the opening of the next training season, three years for the making of an infantryman and four years for the cavalry and technical services are very moderate estimates.

At the end of these three or four years two courses are open. The first is to transfer the made soldier to the reserve, ready to rejoin the colours at need; but even after only four years' service the reservist is by so much at a disadvantage to those who have never left civil life.

The second course is to retain the made soldier in the Service. It is from men so retained that our foreign garrisons, the Field Army

in India, and the small Field Army at home which is to cover the mobilisation of Auxiliaries, must be found. So far, so good; in the case of the 100,000 or more men thus employed, the difficulty is avoided for a few years. It then returns with greater force. If it is not easy to take up one's old life after three years, it is very difficult after seven, and practically impossible after twelve. And until things are so changed that to have served as a soldier is not equivalent to having wrecked one's whole life, men of sense will decline to remain in the service, if they have ever been foolish enough to join it. If we are to obtain the men we want we must be able to say: "So far from your military service being your ruin, we undertake that you shall be provided with employment according to your abilities and deserts, so long as you are capable of working; at the end of that time you shall receive a sufficient pension to assure the comfort of your old age."

How is this end to be attained? By the enactment of a law that no man shall be appointed to the staff of any department under the Imperial Government, nor to any force of county or borough police unless he shall have served for at least three years in the Regular Army or Navy, except on the written certificate of an official to be appointed by the Secretary for War and the First Lord of the Admiralty that no candidates are forthcoming from either branch of His Majesty's armed forces.

When one realises that in our larger towns the post office employés are numbered literally by the thousand, it will be admitted that this department alone could find employment for almost all our time-expired soldiers and sailors.

The ideal to be aimed at is that of a Consolidated Public Service, employment in any of whose departments would count towards a public pension. A special office, composed of representatives from all the labour employing departments, should be formed to deal with the distribution of the men, and to form regulations for their transfer from the military to the civil branches, according to the needs of the moment.

The reorganisation of our Auxiliary Forces on the basis of universal training, and their assumption of their proper duty of Imperial defence, leaving to the Standing Army the duty of Imperial police, would diminish the need for a large reserve to the Regular Army, while the increased flow of recruits which we hope to ensure would automatically abolish the system of using up the reserve to complete units to war strength, and save it for its proper duty of replacing casualties. In these circumstances the period of reserve service might be substantially lessened, so that mobilisation, touching only the newer and less skilled hands in the other departments, need not disorganise the machinery of civil government.

There are certain positions, such, for example, as that of policemen, for which men of mature age and judgment are peculiarly fitted. These posts should be reserved for non-commissioned officers on completion of twelve or fifteen years' service, while many more of this deserving class would find employment on the augmented cadres of our reformed Auxiliary Forces. Posts of "unskilled responsibility," such as those of hall-porters, caretakers, and commissionaires, should account for the remainder of long-service men, and more especially for those incapacitated by wounds or climatic diseases from hard physical work.



All pensions, except in the case of disabled men, should take the form of old-age pensions, commencing at fifty, or even later. Thus, instead of a sergeant receiving two shillings a day on completing twenty-one years' service at the age, perhaps, of less than forty, he should receive a living pension of three or more shillings a day on reaching the age of fifty.

There is a difficulty, and that a serious one, in the face of applying the panacea of a consolidated public service to the men of the foreign garrisons. Unless the charges for transport are to be excessive, these men must be retained abroad for at least five years. The larger part of them are of necessity quartered in enervating climates where, during much of the year, only an hour or two of the early morning can be devoted to military exercises. In the absence of other employment the natural and fatal consequence is, that these men rapidly become accustomed to doing nothing all day, and that then, having acquired habits of indolence, a susceptibility to cold, and, in all probability, to intermittent ague, they return to England less capable of earning a living than anyone else. These are the men of all others whom the Government must protect from the consequences of services rendered to their country.

That a guarantee of subsequent Government employment will produce men enough to face the risks and discomforts of foreign service, is not in doubt. The prospect of five years' travel, followed by an assured career, is an alluring one.

It is the State which we have to protect against the influx into its civil services of men, who, through no fault of their own, have become indisposed and unfitted for steady hard work, such as every employer has a right to expect.

Now it is obvious to those who are acquainted with soldiers that the lower ranks abroad deteriorate with a rapidity out of all proportion to the effect which a similar sojourn has upon their officers. The cause of this is not to be sought in less favourable conditions of life, for the officer in the pursuit of sport exposes himself to climatic conditions in a way which is impossible and forbidden to the men. It is rather to be found in the fact that the officer takes care to fill his days with a gentle flow of mental and bodily exercise, in which he has the means and opportunity to indulge. It is the better class recruit who feels to the full the torture of idle days, when he is constrained to sit alone on his bed-cot eating his heart out with vain desires and vainer regrets. Both to promote his peace of mind and to prevent his acquiring idle habits, something more must be done to fill those days than the promoters of temperance associations and regimental recreation rooms have the power to accomplish.

This end can be achieved, at a relatively small outlay, in a way which should offer the highest of incentives to the active and ambitious man we want as a recruit. That way is to invert the system which we have proposed for the Auxiliary Forces. In the one case we are to go to the schools for our soldiers; in the other, let us come to the army for our schooling. Let us make our foreign army the secondary school and university of the poor man, of those whose opportunities of education have been scanty in earlier life. Let us say to the recruit: "If you enlist for service abroad you shall not only be assured of employment on your return to England, but, if you care to work during your service, you shall be enabled to qualify for far higher and better paid work than you could now obtain. In a word,



if you want to better yourself in life, you shall receive all the instruction and all the help of which you care to avail yourself in exchange for a few years of service in the Standing Army."

To this end every corps composed wholly, or in part, of men liable to foreign service, should contain or be associated with a secondary and technical school.

On completion of his military education, that is to say, at or before the end of three years' service, the soldier would have the option of joining this school and attending any one or more of its courses of instruction between nine and five o'clock on four or five days a week. The schools would be closed for three months, during the summer in temperate climates, and during the cold weather in tropical stations. During this period the men would be available for field training and manœuvres; during the remainder of the year they would be available for parades, for firing range practices, and for other forms of instruction which do not require more than a couple of consecutive hours before breakfast in the mornings, and on one or two days in the week when the schools ought to be shut—say Wednesdays and Saturdays.

It is to be remembered that fatigues are practically non-existent and employments rare in stations abroad. The menial duties which absorb so much time and energy at home are performed by natives who act as servants, grooms, waiters, cooks, pioneers, and orderly men, who often clean the men's boots, bring them their morning tea, and shave them before they are awake. Guard duties are light nowadays, and would be lighter still if more wholesome occupation gave the men fewer opportunities of drifting into trouble; it would be no hardship and would not materially interfere with our scheme if companies were detailed by roster to furnish all duties for a week, and exempted from school for that period.

It would be very difficult for any one person to detail a suitable course of instruction for such training schools. The soldier's knowledge of educational technicalities is necessarily limited; the civilian's acquaintance with the shortcomings and possibilities of the soldier much more so; while the question of finance dominates and regulates both. But if a small committee were appointed to consider the whole question, the following outline of subjects might be worthy of investigation:—

1. A commercial course, of book-keeping, long-hand and short-hand writing, English composition and one European language. The language of the country, its history, customs, and geography, should be taught as a military study.
2. A course of handicrafts, in which freehand and mechanical drawing, working in wood, metal, and leather, printing, bookbinding, and other similar arts might find a place.
3. A general or recreative course of such subjects as modern history, geography, and English literature, which, if devoid of purely commercial value, none the less afford an infinite amount of happiness to their students and develop tastes easier of gratification and more beneficial to the national future than a fine palate for beer or a certain skill at cribbage and banco which now form the sum-total of the soldier's learning off parade.

Let it be admitted that this is an Utopian scheme, incapable of full and immediate realisation. The main attraction for some years to come must be the certainty of continuous employment for all well-conducted men who desire it. But the educational project contains the greater possibilities of the two proposals, not only from a military but from a national standpoint. It would not be hard to start on a small scale with one or two battalions; although the fetters of habit and custom hang heavily upon the majority of men, it would be a sorry confession to admit that there are no officers into whose soul the iron has not entered, who could inaugurate and forward such a scheme, aided, of course, in educational matters by a proportion of civilian experts. But one thing must never be forgotten: the first condition of its success is the thorough systematisation of the soldier's military instruction, in order that he may be fully trained to arms before being allowed to divert any of his energies to lay purposes.

An able soldier, on whom fell the soldier's usual task of making something out of nothing, who improvised three hundred thousand soldiers and held Paris, not without honour, for four months, against the greatest army of modern times—General Trochu—when taking part in the Parliamentary debates on the reconstruction of the French Army, made this remark: That the first condition of short service must be "the substitution in our regiments of a military education for the monotonous and purely technical breaking in (*dressage*) which has made the French soldier ever since the French Army existed." Such an "education," which, in the original French, implies not only a progressive military training, but also an inculcation of the military ideals and spirit, is provided for to a great extent in our latest manuals. Perhaps the habits and prejudices engendered by long years of indifference and mismanagement have not yet disappeared.

But the bad old ways are vanishing apace. When an intelligent public interest in the army has been aroused, and military service has ceased to be the ruin of the soldier's after life, our national forces will also cease to be what they have been in the past, a refuge for the stupid, the improvident and the destitute, and a calling most wisely shunned by the industrious and ambitious of every class.

The national safety and the national honour alike demand that our defences should be placed on a sound footing, and that our most vital interests should no longer be entrusted to the most worthless part of our population.

I have tried to indicate what appears the least onerous way of fulfilling these obligations. If these means fail we must still remember that no sacrifice of leisure, life, or money, can be too great for the security of our Empire, and the peace and progress which that Empire ensures.

## SECOND PRIZE SPECIAL MILITARY ESSAY, 1905.

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*Subject:—*

“THE BEST, LEAST IRKSOME, AND LEAST COSTLY METHOD OF SECURING THE MALE ABLE-BODIED YOUTH OF THIS COUNTRY FOR SERVICE IN THE REGULAR OR AUXILIARY FORCES AS EXISTING, AND FOR EXPANDING THOSE FORCES IN TIME OF WAR.”

*By Colonel F. N. MAUDE, C.B., 1st Hampshire R.E. (V.).*

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*Motto:*

*“Der Gute ist des Besten Feind.”*

*“Der Soldat muss sich's können fühlen und wer's nicht nobel und edel treibt Lieber weit von dem Handwerk er bleibt.”—Wallenstein's Lager. Schiller.*

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“War,” as Clausewitz has told us, “is an incident of human intercourse, neither moral or immoral in itself, but analogous to business competition, which, in fact, it greatly resembles.”<sup>1</sup>

In these words he has embodied the whole results of a quarter of a century's experience of the new factor in “human intercourse,” introduced by the rise of the principle of nationalities into the balance of European Powers.

This new factor had its birth in the French Revolution—itsself the consequence of the abuse of the dynastic principle which it displaced—and its growth involved every nation, except England (she escaping by reason of her geographical position), in a struggle that brought home to every family, almost to every man, woman, and child, on the Continent that elementary instinct of self-preservation common to all gregarious races of the animal kingdom,<sup>2</sup> viz., that the good of the community comes before the happiness of the individual, and that no one has a right to such protection as the community can afford who is not both fit and ready to exact from any national enemy the highest possible price for his continued personal existence. It is

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<sup>1</sup> Clausewitz's “vom Kriege,” 1st Book, 1st Chapter.

<sup>2</sup> See Prince Krapotkin's most interesting work, “Mutual Help in the Animal Kingdom.”



not enough to be willing to die for one's country—the essence is, that men should submit to be trained in such wise that the enemy will not dream of even attempting to create the occasion which may demand from each man this ultimate sacrifice.

Prussia having suffered most, was the first to push this principle to its logical conclusion, and the victories of Königgrätz and Sedan have since compelled all other Continental nations to follow her example, with the result that each now stands armed to the teeth and ready to spring upon its neighbour, literally at a few hours' notice.<sup>1</sup> The consequence has been that the peace of Western Europe has not been disturbed for the last thirty-five years, and the Germans have piled up wealth in a manner for which history finds no parallel, and this, in spite of the burden of personal service and indirect taxation, under which they all declare themselves to be suffering.

The accumulation of wealth is to the nation what the growth of muscular energy is to the individual, hence it is reasonably certain that however little they may like the conditions under which they are compelled to live out their lives, these conditions nevertheless are well adapted to their environment, and, seeing this, there are not wanting many in this country who are asking whether we too had not better imitate the example of our rivals?

Now, if Clausewitz had lived a century later, it is probable that he would have expressed his definition quoted above in Darwinian peculiarly liable to distortion in controversy, especially by those who survival of the fittest,<sup>2</sup> transferred to the national plane"—the "fittest" being again "that organisation best adapted to its own environment," and this last word, "environment," brings us to the root of the whole matter, and if we follow it up will lead us to a scientific solution of our whole problem of national organisation for defence.

I use the word "defence" not without misgiving, as it is peculiarly liable to distortion in controversy especially by those who have not been trained to exactitude in their choice of military phraseology. For me, the "offensive" is the only form of action which technically holds out any prospect of nationally successful defence; but the word "defence" is the only one which defines our actual political position with the necessary degree of accuracy for my purpose, because our national object is to keep what we already have, and since the issues of a military struggle are proverbially uncertain, we have everything to gain and nothing to lose by a maintenance of the *status quo*. This, being granted, forms the basis on which our whole fighting organisation must be built up. If our

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<sup>1</sup> By the indiscretion of a German Staff Officer, I became acquainted with the German orders in case of war with France in 1886. The whole of the Western Corps were to take the field as they stood—without waiting for Reserves. The French 5th and 6th Corps were brought forward to equal readiness two years later. This is the explanation of the Kaiser's frequent "Alarm" parades—all limbers, wagons, etc., form up completely packed for action.

<sup>2</sup> As Huxley long since pointed out, "fittest" is not synonymous with "best"—a point the disputants over the survival of our slum population in the *Morning Post*, in August, generally have ignored.

fleet and armies fail to inspire our enemies with sufficient respect to induce them to keep the peace unbroken, they have failed us in their most essential purpose, for nothing we may make out of successful war can compensate us for its inevitable cost.

Herein lies the first and principal point of difference between our position and that of our rivals. They have everything to gain—Colonies, fleets, money, and markets—from successful hostilities, and their desire for these determines, from the very outset, the nature of their preparations against us. Since in point of wealth and recuperative power, comparing Empire with Empire, we can afford—indeed, by our circumstances, are compelled—to play a waiting game, they are equally driven to bring their utmost possible force against us from the very first moment when it becomes obvious that hostilities are inevitable.

Fortunately for us this effort is limited by our insular condition, and this brings us to the second main point in which our respective environments differ.

Given two nations facing one another across an imaginary line of frontier, either may attack the other (theoretically at least, though in practice theory suffers very considerable limitations) with every available man, horse, and gun at the shortest notice. Hence each is compelled to keep its forces on such a footing, and at such a degree of efficiency, as will ensure almost instantaneous action; each therefore is obliged to seek to gain in peace some shortening of time in mobilisation, or of concentration without technically complete mobilisation, sufficient to give it an advantage over its rival. Thence arises the need for incessant labour in all their mobilisation departments with whatever section of the frontier each one may happen to be especially concerned, whether this may be towards the land or sea. (In France, the north-eastern section being the most important, places in this section are most coveted. Hence a man in a coast section is induced to work his hardest to secure promotion.)

For a land Power, therefore, the whole question of organisation is narrowed down to the finding of places for, and the training of every available man to, instant readiness for the field. This, however, clashes directly with the necessity the whole nation feels to secure the best possible conditions of existence for each of its ultimate particles. Therefore in practice a working compromise has to be reached which, whilst giving this indispensable minimum of training, ensures for the whole a maximum working efficiency which will procure the attainment of a sufficient standard of comfort for the units of the whole race. Now, in practice a three years' period has been found an economically possible solution<sup>1</sup> of this very difficult problem. With

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<sup>1</sup> The matter works out economically as follows :—The training both of body and character that men receive in the ranks gives them greatly increased physical energy and power of concentration, together with a better expectation of life. Hence they not only remain available as wealth producers for a longer period but do more efficient work throughout the whole time. Taking the average yearly wage in Germany at £50 a year, then since the average value of a finished article is about three times the value of the labour put into it, and assuming that the increased expectation of life due to the military training averages five years—a figure which most



a longer time men's interest in the acquisition of knowledge is deadened—drills cease to be instructional and become mere routine, and with less, if the required standard is to be kept up, the men have to be so ruthlessly driven that discontent, which is carried into private life, is the inevitable consequence—a fact that the Germans are beginning to find out.<sup>1</sup>

This is only an approximation. Mulhall's estimate<sup>2</sup> of the total wealth of Germany works out somewhat lower; but it must be remembered that according to economists she has been suffering heavy losses from her protective tariff, which would diminish my total.

In any case I submit that we have here a case well deserving detailed investigation by our statisticians.

This solution, however, viz., 3 to 2 years' colour service, though it has been forced on all Continental nations by the inexorable logic of facts, contains one disadvantage, viz., that the outbreak of war automatically removes the whole able-bodied population from reproductive labour, and hence all material recuperation of strength during war is rendered, if not impossible, most exceedingly difficult—hence land Powers must stand or fall by their previously accumulated energy, which, other factors being equal, means their credit, which again will depend on the extent and degree of their initial successes; hence a further cause for straining every nerve to gain at the outset a shattering success.<sup>3</sup>

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authorities consulted in Germany by the writer agree upon as reasonable—then, thanks to this training, there are always about half a million Germans alive and earning wealth for the nation who without such training would have been dead, and this would give the annual increment of wealth to their country of  $\text{£}150 \times 500,000 = \text{£}75,000,000$  sterling. There is further the increment on the work done by each individual throughout his normal existence, which we may put at  $\text{£}10$  a year, or for 5,000,000 workers,  $\text{£}50,000,000$  a year. That is to say, that during the century that has elapsed since universal service was introduced, allowing for the growth of the population from about 20,000,000 to near 60,000,000 (giving about 2,000,000 and 6,000,000 trained men respectively—a mean therefore of 4,000,000), there should have been an increase of national wealth, in round numbers, of about 100,000,000 a year—in all, of 10,000,000,000—which would agree fairly closely with the facts, for whereas German credit in 1806 stood at *nil*, nowadays it is equal to our own, though her rate of taxation is higher than ours, and her nominal wealth stands at about 8,000,000,000, against our 17,000,000,000.\*

\*See Sir R. Giffen's address at Brit. Assoc., Southport, September, 1902. I am compelled to quote from memory, and thus cannot give the page.

<sup>1</sup> The real reason for the reduction of service to two years in Germany was, not to supply greater numbers, but to strike at the root of Socialism. Old soldiers rarely join the red flag except to secure better labour conditions; but the result has disappointed expectation. (From information supplied to me in Berlin, 1893.)

<sup>2</sup> See latest edition of his Dictionary of Statistics.

<sup>3</sup> This again alters the whole nature of the original strategy at the opening of a campaign, for it eliminates the possibility of employing a "retaining" force—a point Moltke appreciated in 1866 and 1870, but which his French commentators have failed to appreciate.



From this disadvantage we, by our insular position, are relatively free. War may, and undoubtedly will, come upon us as a bolt from the blue; the conditions of existence in foreign nations compel them to rely upon surprise.<sup>1</sup> But the degree of initial effort we must put forward to repel surprise can be determined within limits quite unattainable as between two nations separated only by a land frontier.

Practically the whole question can be narrowed down to this single issue: How many vessels capable of transporting troops across from 25 to 100 miles of sea can be concentrated along our enemy's coasts, in their harbours, estuaries and so forth, on any chosen day of the year, by orders which can be kept secret until the very moment preceding complete execution?

Taking the charts and maps of all neighbouring frontiers, it is evident that, even pressing into the service fishing boats, canal and river steamers, etc., the tonnage must be strictly limited, for though theoretically it would be possible to arrange by sealed orders for every ocean-going vessel in their Mercantile Marine to rendezvous at pre-determined points along, say, the French coast-line from Dunkirk to Cherbourg, yet the sudden influx of these vessels from all quarters into the Channel would create conditions which could hardly fail to disclose their purpose to the many trained eyes on board our own cross-Channel services, whose running could not be interfered with, if the surprise was to be complete, until the very last moment possible, for it needs only warning enough to enable our destroyers to get to sea to ensure the failure of any such design.

The resources of transport are thus reduced to the number of vessels at all times within immediate call of points along the coast line, including in the total sailing vessels and lighters capable of being towed through a moderate sea at not less than six knots an hour, and crowding all these vessels to the utmost extent compatible with a ten-hour voyage in smooth water. It does not appear to me possible that more than 120,000 men, their artillery, cavalry, and transport reduced to the minimum necessary for this particular service, could by any possibility be conveyed across the Channel in such a manner as would ensure a sufficient degree of surprise to give reasonable prospect of success to a raid having London for its primary objective.

Space and time alike fail me to go into the chances for and against the ultimate success of such a surprise.<sup>2</sup> It will, I think, be sufficient

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<sup>1</sup> See note to p. 30.

<sup>2</sup> During the last ten years the historical section of the French General Staff have gone back completely to the Napoleonic School, and recognise that under special conditions, "mobility" may far outweigh "cohesion" in the larger units.

Cavalry takes up much room on board ship, and would be of little use in England, but a special force made up of all the Chasseur battalions in France, capable, like the Bersaglieri, of marching 5 miles an hour, and 7 on occasion, could easily be railed to the coast without attracting attention. There are 30 of these battalions in France, which, at 500 men each, gives 15,000—a very efficient substitute for cavalry divisions. The cyclist companies should also not be neglected. Taking the "dislocation" map of the French Army, it will be seen that the task of despatching by road and rail 120,000 men to places along the Channel coast would nowadays be a very simple matter, and could easily be accomplished in 24 hours. How

to point out that for an equal, indeed for a lesser, stake there have been Continental leaders of all nations who have actually accepted even greater risks in the past,<sup>1</sup> and therefore we may reasonably count on the existence of others in the future; hence the cardinal principle of all our organisation must be the insurance, under whatever form of service we may adopt, of the presence of a sufficient body of troops in this kingdom ready, as in India, to move at a moment's notice, and so distributed in their peace quarters that they could be concentrated for decisive battle on the shortest line between London and the sea in sufficient time to defeat any such effort of sheer numerical superiority.

It is conceivably possible that such concentration is sufficiently provided for by our present regulations for mobilisation. Whether this is or is not the case, as an exoteric observer I can express no opinion, but the indications all point against this supposition, and I am at least convinced that, calculating out the time required for such a movement by the *data* in use in all Continental Staff Bureaux, no foreign general would hesitate to incur the risk, and since the whole question of invasion depends not on *what we know*, but on *what the enemy thinks*, I suggest that the very first practical step of Army Reform should consist in the redistribution of our available forces in such manner as to insure under all circumstances that the enemy would incur the certainty of a battle against heavy numerical odds, no matter when or where he might attempt a landing. I believe that such redistribution could be carried out, not only with great benefit to the troops concerned but actually with a profit<sup>2</sup> to the departments most directly involved.

Such a redistribution of our existing forces would undoubtedly do much to diminish the temptation to attack and end all by a paralysing blow at the heart of our Empire which at present exists; but we must be living in a fool's paradise indeed if we imagine that safety against a raid will suffice to maintain peace in the face of the growing dangers by which the Empire is threatened.

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easily such movements escape notice is shown by the recent concentration of six corps for action against Germany at the height of the Morocco crisis, and again by the concentration of eight corps, four for manœuvres, four in position of readiness during the present month (September) on the eastern frontier. The former has never been realised by the English Press at all; the essential part of the latter seems also to have escaped observation. We have been told of the concentration of four corps for manœuvres, but not of the movement of the other four held in readiness.

<sup>1</sup> Jourdan's passage of the Rhine, 1794. Austrians held all boats on river, and Jourdan compelled to bring boats from Holland by canals. His communications actually were cut by fire-ships, but without result on his operations. Napoleon's passage of the Danube at Lobau—Austrians cut his bridges by drifters. Napoleon's descent on Egypt. Prussian passage of the Alsen Sound, 1864, in open boats—the Danish ironclad "Rolfé Krake" failed to prevent the passage. Russian passage of the Danube, 1877, though Turkish gun-boats still held the river.

<sup>2</sup> By the sale of W.D. land we have developed, and purchase of fresh sites near Ashdown Forest. We paid £7 an acre for Aldershot, and it is now worth, say, £50—Ashdown Forest possibly worth £25.



These dangers arise simply from the action of the law of growth inherent in all living organisms, which applies to the highest type of all, the nation, as to the lowest entity of the vegetable kingdom which struggles for existence against its surroundings. Germany, Russia, and Great Britain can no more prevent the consequence of their own inherent vitality than the trees in the forest can hinder the results of their growth. Each must acquire the food it needs for the nutrition of its ultimate particles, which food, in the case of nations, is measured in terms of trade and money, and each ultimate particle of each organism requires a different quality of nutrition, which with rival nations is expressed by the relative standard of comfort each believes to be indispensable.

For the past thirty years a condition of relatively stable equilibrium has obtained throughout the Continent of Europe, during which the nations have been storing potential energy; but this equilibrium has been completely upset by the collapse of Russia in the Far East, and forces are about to be released in Europe which must evolve a struggle for readjustment of the balance of power which will be analogous in its main features with all those which have preceded it, and though fundamentally the result will depend on the possession of the command of the sea, the final issue will be decided on land, precisely as happened in the beginning of the century,<sup>1</sup> for ultimately the forces at work remain the same as they were then.

Excluding the United States from our argument, the most highly vitalised white race at the present moment is apparently Germany, whose millions, rapidly outgrowing the supporting power of her soil, are compelled to "seek their place in the sun"—the Kaiser's phrase in a recent speech—as others have done before them, and sea power is the first essential of their success in doing so. In this she traverses our path directly, and since her geographical position places her at an enormous disadvantage as against us, she is compelled to seek wider access to the open sea, by extension of her sphere of influence.

The literature of the "Pan-Germanic" School<sup>2</sup> foreshadows the lines of action she must adopt, and her recent conduct with regard to the Morocco question and the control of the Baltic indicates the steps we may reasonably expect her to take.

Freed from the menace of "The War on Two Fronts," which has so long restricted her activity, she now appears to be determined to compel France, as France under Napoleon once compelled her, to become her obedient ally<sup>3</sup> on the one hand, whilst on the other she seeks by peaceful penetration to close the Baltic against us and to secure all the advantages of harbour accommodation and mineral resources the littoral of Norway and Sweden along the North Sea and Atlantic can afford her, and until we dispose of an Army capable of giving the same support to our possible allies which we were able to give a century ago, there is absolutely nothing to prevent the slow but certain realisation of her desires.<sup>4</sup>

<sup>1</sup> Trafalgar and Waterloo.

<sup>2</sup> See especially a very remarkable book, "Pan-Germanism," published early this year, but anonymous. The author knows his subject, and has collected a mass of most valuable information.

<sup>3</sup> In 1812. Since writing this, Prince Henkel von Donnersmark is reported to have used this identical threat in Paris.

<sup>4</sup> Written before the "Baltic cruise" incident.



Moreover, events may hasten their accomplishment very materially, for Russia, like France after her Revolution, will be driven by the internal forces at work within the Empire to renewed exertions to seek a warm water port, and her only direction of free expansion must bring her into collision with our interests in the East.

If her diplomacy can precipitate this event, the road lies open before Germany, for, in German opinion at least, our fleet alone cannot inflict upon her punishment at all commensurate with the advantages she may hope to derive, for though her Mercantile Marine would undoubtedly have to be laid up during the continuance of hostilities, ours would largely pass under the protection of the Stars and Stripes, and with the advantages she would secure by the possession of the Norwegian sea-going population she could easily enter into commercial competition with the highly paid labour on the other side of the Atlantic for the carrying trade of the ocean.

The two portions of this design need not be carried out simultaneously, nor need invasion of our islands form an integral portion of the plan, for in view of the pessimistic utterances of our own Press and literature, Germans may be pardoned if they doubt our power of resistance to the internal troubles war would at once create in the present state of our organisation for defence, and I think I may safely add, that if we were now at the eleventh hour to adopt their own institution of compulsory military service, which they are so constantly advising us to do, this would be the last step needed to deliver us over tied and bound to their mercy. This assertion may appear to many to be strained, but I will proceed to justify it fully, for, under the conditions supposed, viz., war with Russia in the East, what would be the immediate consequence which a declaration of hostilities by Germany and France against us—or even Germany alone—would inevitably entail?

Setting aside all question of the possible traps into which our fleet might be led, by entry into the Baltic,<sup>1</sup> for example, it is evident that our commercial credit would be very severely strained by the efforts to maintain an adequate force, say a quarter of a million men, only in the East; now add to this a naval war at our very doors, carefully organised in advance to cause us the maximum inconvenience possible.

It is quite conceivable that if our people, through the medium of the Press, the Volunteers, and all other agencies, had been systematically trained by our Intelligence Department to understand what things are possible and what impossible in modern war, we might accept the addition of Germany alone to the list of our foes with equanimity; but as matters stand, our adversaries may be excused if they believe that commercial panic would be the first and immediate consequence of such action on their part.

Commercial panic means the shrinkage of values, shrinkage of values the curtailment of credit, and with the loss of credit would go almost half of all our industries; in fact, nearly all whose existence is independent of Government orders for war stores of all descriptions. Simultaneously would follow a jump in the price of raw materials<sup>2</sup> and food, and from one-third to one-half of our working classes would

<sup>1</sup> Written before the recent Baltic cruise.

<sup>2</sup> See evidence of Marine Insurance firms in Royal Commission on Food Supply.

be thrown out of employment and rendered dependent on the rates and charity; but there would be no money for the former and still less for the latter. In the absence of charity even the present "Unemployed" Bill would fall flat, and our starving multitudes would come on the rates, house-holders could no longer pay, and evictions would become the order of the day, with the result that leaders<sup>1</sup> would be found for the masses and an outcry for surrender raised which it would be almost impossible for our politicians to resist in view of the apparently very favourable terms our enemies could afford to offer us.

This is the picture as it appears, and must appear, to the Continental mind nourished on our newspaper articles and confirmed by the object-lesson of Paris and the Commune, which neither French nor Germans have ever forgotten. And now note how it would be aggravated by recourse to their favourite nostrum, viz., compulsory service.

Any law of compulsion that could possibly find acceptance with Anglo-Saxon races must be at least as universal as in Germany. Hence, even if war with Russia only had not compelled us to mobilise our whole Army, the addition of yet another enemy undoubtedly would do so, for even if the danger of invasion were known to the initiates to be remote, popular panic would compel mobilisation, and expert opinion would have to bow, not merely because nowadays it always must, but because some relief for the congested labour market would have to be supplied. But this mobilisation could make no distinction of persons, and simultaneously all our physically finest and best men would be swept into the net, quite regardless of the positions they occupied, leaving our already crippled industries to struggle along as best they might with such assistance as they could get from the residue of the population. This result is inevitable, for if universal training not only ensures that the physically fittest should enter the Army, but then trains and develops this fitness yet further, these perfected types must drive their weaker untrained competitors to the wall, and as a consequence will be found filling all the most responsible positions in our commercial undertakings.

This being precisely what has happened in Germany, it is improbable that the point should have escaped German observation.

Now though in this manner we could undoubtedly fill the ranks of our Army, should we at the same time create the spirit animating all ranks which alone makes an Army formidable in the field? I doubt it, and for the following reasons: At the present moment we could only hope to pass a species of Swiss Militia Bill (with service in the ranks not exceeding 1 year—a period which, though sufficient to confer the glint of peace-time polish, is altogether inadequate for the growth of the deeper soldierly virtues of self-sacrifice and endurance) by dint of much persuasion, by a very insignificant majority, which, with the swing of the pendulum inevitable in all such cases, would presently change into a considerable majority; it is therefore safe to assume that at least one-half of our recruits would bring no goodwill to their new life, and though many would adapt themselves to the change in their environment, a considerable number—say 30 per cent.

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<sup>1</sup> The upper-middle strata of the commercial classes, accustomed to organise and control labour, might, when ruined, become very dangerous leaders.



—would remain recalcitrant to the end of the chapter. Have our supporters of the compulsory service idea ever endeavoured to formulate in their own minds what difficulties such recalcitrancy would entail in the maintenance of discipline?

All commanding officers know what trouble even half a dozen malcontents can occasion in a regiment; how the bonds of discipline for the whole have to be drawn together to curb their excesses, and how political pressure is constantly being exerted to hinder the C.O.'s in their endeavour to maintain efficiency. If this is the case even now, with perhaps only 2 per cent. of defaulters, who find considerable difficulty in securing Parliamentary influence to support their complaints, how would it be if their numbers were swollen to, say, 30 per cent., with the whole of the Opposition, whichever party was in power, ready and willing to make political capital out of all their grievances? The consequence must be one of two things: Either discipline would be supported and its bonds drawn so tight as to render the Service altogether too irksome, as in France, where penal battalions and firing<sup>1</sup> parties barely suffice to maintain it at a reasonable level, or life must be made so easy that the training would become a farce, and in either case reserve men when called upon would rejoin with a sense of disquietude and justifiable grievance, and officers would go into action with the conviction that they could not rely on their men to follow them.

The art of war, Moltke has told us, "consists in the practical adaptation of the means at hand to the attainment of the object in view"; but speaking to his own people, who always have a uniform material at their disposal, he omitted to point out the enormous range of variation of which the human material—the heart and soul of the matter in war—is actually capable, and it is on this point that civilian Army Reformers invariably come to grief.

To them the soldier is simply a human being in a certain prescribed dress—how he came into it is a matter of no importance—who will obey the law as reasonable beings habitually do under normal conditions. They forget entirely that it is the soldier's duty to obey under circumstances to which no reasonable being in peace is ever subjected; when the fear of death and mutilation—far worse than the things themselves—is being vividly driven in upon his mind by every shower of lashing bullets, and only the inborn heroism and developed will-power of the mass can keep the units in their places. The difficulty of all military organisation lies in the development of this will-power, which is discipline, and it is greater or less almost in precise proportion to the good-will and intelligence each individual recruit brings with him to the colours, which again depends on whether he comes willingly or under compulsion.

I am of course aware of the taunts of "conscripts of hunger" and "mercenaries," so freely lavished on our soldiers by the gutter Press of our own and most foreign countries, and I am even prepared to concede that many are compelled into the Service by these two causes; but the proportion is far fewer than is generally believed, for the ranks of the "unemployable," at least as numerous as the whole Regular Army with the colours put together, are always open also,

<sup>1</sup> Between 1885 and 1892 the average number of death sentences by courts-martial was 56, most of which appear to have been carried out. (See files of *La France Militaire*.)



and a man must have some spark of soldierly instinct in him somewhere who prefers to accept the immediate restraints of a soldier's life to the freedom always open to him as a "corner loafer." It is a matter of common knowledge to the police and all charitable organisations that none of these loafers of an age to bear arms has ever been found dead of starvation, and their hardships of sleeping out at nights and occasional want of sufficient food are small indeed compared to what both officers and soldiers, frequently for weeks and months at a stretch, have to endure on active service.<sup>1</sup>

Granted, however, that many, even 50 per cent., do enlist under the pressure of want, they come into a body by dribblets only, and the good-will of the majority soon brings out and develops the spark of patriotism that dwells in all our hearts, except indeed in the basest, who are soon rejected by the regiment, and go back to the ignominy from whence they may have sprung; this is the life history of some two-thirds of our deserters.

Neither of these taunts, however, apply to the Volunteers, who receive nothing (not even ridicule nowadays) for their services, and who therefore develop in the short period of their exercises an *esprit de corps* which the professional soldiers of all nations<sup>2</sup> who have studied them admit to be of the most extraordinary value as a guarantee of their efficiency when permanently enrolled.

Nor are the numbers of trained men turned out by our existing system so contemptible as it is the fashion of the moment to represent them. Neither soldiers, sailors, nor men of the Auxiliary Forces lose the whole of their value as fighting men the day after the legal term of their engagement ceases; on the contrary, they carry their better physique, due to selection and training, into civil life, and with the exception of the invalids, victims of our foreign and Colonial conditions of service, remain robust and healthy for at least as long as their Continental comrades in the Landwehr or Armée Territoriale in Germany or France.

In the attached diagrams I have endeavoured to show graphically our totals of trained and partially trained men calculated to the same conditions of service as prevail in Germany. By the German law, a man becomes liable to military service after his 17th birthday, and may be called out until the completion of his 45th year; but normally he serves from his 21st to his 45th birthday, viz., 2 years with the colours and the remainder in the different categories of Reserve and Landwehr. Applying similar terms of service to our own case, it will be seen from Diagram I. that since no fewer than 827,000 have joined the Regular Army since 1875, there should have been, allowing for wastage by death calculated by the ordinary life tables in use in insurance offices, and deducting a further 2 per cent. for death in action and foreign service health risks, an ample allow-

<sup>1</sup> Note in diagram how, though the price of food and proportion of paupers have both fallen, the percentage of recruits to population has steadily increased. Note also in Diagram I. how the number of men over 5 feet 6 inches enlisted has also increased.

<sup>2</sup> Opinions gathered personally by the writer, especially amongst German officers. Even in 1877, when the Volunteers were far below their present standard, the discipline they still retained after the close of a long Brighton review was considered extraordinary by men who had fought all through 1866 and 1870.

ance, the very respectable figure of 744,000 still alive and quite as capable of performing military duty as their comrades of equal age in Germany, for the German death-rate is slightly higher, the percentage of crime somewhat greater, and judging by such comparisons as I have been able to make between their Landwehr battalions and our men of similar length of service, *i.e.*, the Royal Reserve Regiments called out in 1900, their men become unfitted for active service at an earlier age than ours.

Actually a War Office return, dated 30th July, 1898, gives 569,758 reservists and ex-soldiers (exclusive of deserters) estimated to exist in the country at the date of the return, and adding to these 203,000 men at the time in the ranks, we get a total of 772,758 trained men in the British Isles alone.

This, however, includes all ages, and must be very much below the mark, for adding on another 15 contingents, *i.e.*, going back to 1860, we find that an additional 250,000 have joined the Service, of which, with a 50 per cent. death-rate for the period (*i.e.*, from 45 to 60 years of age), 125,000 should still be alive.

The difference is probably to be accounted for by desertions and emigrations to the Colonies. Making all reasonable allowances, therefore, I think it safe to assume that in 1900 we actually had of trained soldiers of the Regular Army under 45 years of age in round numbers three-quarters of a million men, and of men between 45 and 50 still fit to do duty in garrison, assist as instructors of Volunteers, etc., about another 125,000, or a grand total of 857,000 men, of which, including the Royal Reserve Regiments, about 400,000 were actually under arms.

I have been unable to obtain exact figures of the recruiting for the Militia and Yeomanry during the same periods; but since the two forces have kept up an average strength of about 120,000, and the average term of service appears from later figures to be about 4 years, the annual contingent for the whole period may be fairly taken at 30,000, which, estimated on the same basis as above, gives 675,000 under 45 and 225,000 between 45 and 60, or a total of 900,000 men. (See Diagram III.)

The Volunteers, with a mean annual contingent of 45,000 men, and taking still the same death-rate, *viz.*, 10 per cent., to allow for the less rigorous medical inspection, give us 810,000 men under 45 and 360,000 between 45 and 60, a total of 1,170,000; and adding the whole of these totals together we find that, exclusive of the Royal Navy, there must be of men under 45 years of age more or less trained to arms no fewer than 2,235,000, backed by another 710,000 men fitted, as Continental experience during the Napoleonic Wars<sup>1</sup> abundantly showed, to do good service in the field in case of extreme emergency, giving a grand total of 2,945,000 men as the reservoir of more or less trained men upon which we can draw in time of uttermost peril. (See Diagram III.)

This is what the existing system has given us in the past, and is a sufficiently striking figure; but it would have been greatly exceeded

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<sup>1</sup> Except for civilian critics, it need hardly be added that neither in France, Germany, Austria, nor Russia was the medical inspection for *chair à canon* up to our existing standard during the campaign of 1813-14-15. Nor was it in our own Service.



in the next generation had we adhered to the terms and conditions of service in existence up to 1900, and with which all classes had become familiar.

It will be seen from the diagram No. 1 that our average number of recruits for the Regular Army during the five years, from 1898 to 1902, was, in round figures, 50,000 out of an annual contingent of 380,000 (see Report of Norfolk Commission). In 1940 the annual contingent will be 520,000, and the same ratio of enlistment being maintained we should be taking at a very low computation not less than 70,000 men a year, *i.e.*, the average contingent for 25 years, from 1915 to 1940, will be roughly 65,000 men a year, giving a total of 1,625,000, less 10 per cent. for deaths, etc., or 1,462,500 Regular soldiers, under 45, and for 1900 to 1915, fifteen times 62,500, less 50 per cent., or 418,195, say, 400,000 men between the ages of 45 and 60—a total of 1,880,000 men, with seven years' training with the colours.

In like manner the Militia and Yeomanry, with an average of 50,000 recruits per annum, at present will give a similar sum, and the Volunteers starting with 60,000, and increasing with the population, should give one-fifth more, or 1,180,000 under 45, and 502,000 over 45 and under 60—in all, say, 2,300,000 men.

Our grand total of more or less trained men in 1940 should, therefore, be, in round figures, 4,800,000 under 45, and 1,300,000 between 45 and 60—in all, 6,100,000 men, and these figures will be about a minimum, because, since at least one-half of all our recruits join under twenty, a correspondingly longer time must elapse before they reach the limit of 60 years of age.<sup>1</sup>

Unfortunately, I have not been able to procure similar information for the Navy, nor is it practicable to foretell the rate at which the demand for crews for our war-ships is likely to increase, but working on the same lines, and allowing for the fact that the Navy recruits boys almost exclusively, we shall not be far wrong in assuming that in 1900 there were no less than 400,000 blue-jackets somewhere in the country, and that in 1940 there will be about half-a-million. Adding these figures we find that our final total of men

<sup>1</sup> Our possible enemies enrol their men in their 21st year, thus lose relatively to us fully a whole year's contingent.

As regards the fighting value of men under 20 in great emergencies, see a remarkable article in the February No. of "Scribner," 1905, compiled from U.S.A. official figures. It is there shown that at least 20 per cent. of the Army of the Potomac were under 20 years of age, many being mustered out in 1864 under that age who had fought all through the war. Their death and invaliding rates seem to have been normal, but their courage admirable. In the Southern Army, boys of 15 by hundreds fought in the ranks.

As a point of interest, I may add that the Inspector-General of the Army of the Potomac, *à propos* of the question of town-bred *versus* country-bred soldiers, told me that before the conclusion of their war it became absolutely certain from the returns that the townsmen stood hardship and exposure much better than the apparently splendid men from Kentucky and the plains. This was so contrary to preconceived opinion that the figures were tested again and again always with the same result. As fighting men, the townsmen had far more cohesion in an assault—less individuality as skirmishers.



trained for war in 1900 was but little short of  $3\frac{1}{4}$  millions, out of an industrial population of males, over 17, estimated at 10,000,000, and in 1940, would have been,<sup>1</sup> say,  $6\frac{1}{2}$  millions out of 12 millions—not a bad result for a purely voluntary organisation to attain, seeing that it is slightly in excess of what the German law of conscription would give us on an equal basis of population.

In the limits of my available space it is impossible to discuss in detail the many projects of Army Reform before the public at the present moment; all, however, aim at a reduction in the annual demand for the Regular Army, and none aim higher than a 200,000 contingent trained for one year as a general service army. Taking the numbers required for the Regular Forces at 25,000 only, and remembering that the Navy nowadays requires at least 15,000, we should, at the present moment, need no less than 240,000 out of a total contingent of 385,000 men, and since neither Germany nor France, both with a lower standard of height than our own (5 feet 2 inches and 5 feet  $0\frac{1}{2}$  inches respectively), are able to find this proportion of men fit for the service out of their annual contingent, it seems very improbable that we should obtain better results either.

We are told, it is true, that with compulsory service we should obtain a better standard of physique for our recruits, but the statement seems to be based on measurements of the Anthropometric Committee of the British Association, which appear to me open to serious question.

According to a report presented by this Committee in 1883, our national standard of height at the age of 19 should be 5 feet 7·29 inches. As the average height of our Regular recruits during that year was only 5 feet 5·4 inches, it follows that our men are 2 inches shorter than they should be. But will this deduction bear investigation?

From Diagram 1 it appears that no fewer than 84,000 men came before the doctor for the Regular Army in 1900; and for all services—Navy, Army, Militia, and Yeomanry—not less than 250,000 appeared. Now, though actual figures are not available, it is a matter of common knowledge to those who make it their business to study our recruiting, that the Navy and Army get the pick of the recruits first, neither those of the Militia nor of the Volunteers being equally satisfactory. Hence, if the average of the Army—we will include the Navy—is only 5 feet 5·4 inches, that of the other Services must be somewhat less. Let us deduct the 4 inches and take 5 feet 5 inches as our standard. Then, since there are 250,000 men out of 380,000, averaging 5 feet 5 inches, to bring up the average of the whole to 5 feet 7 inches, the height of the remainder must be roughly 5 feet 10 inches; but from this remainder must be deducted not only the permanent contingent of cripples, dwarfs, etc., but also those would-be young soldiers who are rejected by the thousand before they ever reach the doctor's hands. How many these may be it is impossible to state with accuracy; in Manchester and other great manufacturing towns, it often runs as high as 9 out of 10, and though some of the men come up again and again, few are of the type that either could or would tramp to neighbouring centres, and many will only serve in the regiment of their

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<sup>1</sup>I say "would have been," because owing to the constant breaches in continuity of the conditions of service during the past five years, the curves of numbers become too irregular for exact prediction.

choice, so that it is fair to assume that a good 50,000 more are rejected, and at least one-half of them on account of deficient height.<sup>1</sup> Hence, if the conclusions of the Anthropometric Committee are correct, our annual contingent of civilian youths of 19 must be well over 5 feet 10 inches, and the evidence of my eyes absolutely precludes the possibility of admitting that any such type exists in the country.

Assuming, however, that this estimate of the British Association is correct, would it be worth while to introduce the element of ill-will into the Army merely for the sake of securing one in four of this race of young giants, and thus raising the standard of height by about 1.1 inch? The truth is, that the soundest hearts, lungs, and teeth are not always found in the outwardly most favourable-looking bodies, and with men as in other matters, a fine exterior not unfrequently veils a most unsatisfactory state of things behind it.

For the sake of argument, I will, however, grant the contention of the advocates of compulsory service that their method would give us the physical pick of the nation, which at present we fail to attract, but would that, in itself, be desirable from the standpoint of the nation, as opposed to that of the Army. Here German experience steps in to guide us. They undoubtedly do obtain the physical pick of their people, but the result is, that these physically picked men, developed and perfected, as I have pointed out above,<sup>2</sup> on their return to civil life, crush their weaker comrades to the wall in the individual struggle for survival, and this is the true origin of the progress socialism is making in that country, which is sapping the loyalty, and hence the fighting value, of their whole organisation for war, and is admittedly the most serious danger which German Statesmen are compelled to face. Our method, on the other hand, even if we admit that it floods the Army with undesirable wastrels to the amount of 50 per cent., trains and develops these wastrels to become useful members of society hereafter, whilst, at the same time, our external power of expansion is not fettered by any restriction placed on the colonising instinct of the race, as it would be if our fittest had all to be retained in the country for defensive purposes.

Unfortunately, no adequate statistical inquiry into the influence of our military training on the wealth-producing capacity of our soldiers has ever been undertaken, and the only evidence I have been able to discover is given in the War Office return already quoted (p.40,) which shows that in 1897, out of the whole industrial population over 20 years of age (excluding soldiers and ex-soldiers), estimated at 8,120,025, one in 37 was in receipt of relief against one in 170 of reservists and discharged soldiers (with or without pensions), estimated at 567,758.

Make what reduction in reason that one may in these figures, and the result is still sufficiently surprising when one considers the type from which so many of our recruits undoubtedly are drawn, and the

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<sup>1</sup> Incidentally, the point is worth bringing out, for if the former number be added to those men whose applications to serve we are in a position to trace, it appears that not fewer than three out of four of the available males in the country, at one time or another, endeavour to wear His Majesty's uniform—in other words, that a far larger proportion of the population is willing to serve than compulsion could ever afford to accept.

<sup>2</sup> See note p. 32.



lower and more numerous one assumes this type to be, the stronger becomes the evidence in favour of the economic value of training, such as it was, we formerly gave to our men.<sup>1</sup>

Take the pick of the population and subject them to the improved system of training which has been developed since about 1890, and what would become the fate of the residue if even now the pick are shown to get decidedly the worst of it in the struggle for existence.

Medical inspection is far from being an exact science, and pitiful though the appearance of many of our recruits may appear to be, it is at least open to question whether physically they are as inferior as they seem to the outward eye, for after all the will power of each is still subjected to a test that many fail to stand before they are settled down in their new vocation.

Each has to overcome obstacles of all sorts, prejudices of relatives, conditions of existence repugnant to many in his passage from civil life to the status of a soldier, and it may well be that this spark of persistence in effort and concentration of will brought out and developed subsequently by the whole course of his training is a better asset to the nation, both in his military and subsequent civil occupation, than an extra few pounds in weight or an inch or two in height or chest measurement. After all, it is "will power," not primarily physique, that carries all before it on the battle-field.

Eliminating this will power again for argument's sake, would a compulsory service Army, raised by an annual contingent of 200,000 men, and backed by a Regular force of 200,000 long-service men, with only a small reserve, fight better than the Army we could at present raise?

\* Apply these conditions to the recent struggle in South Africa, and let us see. Our old system gave us in 1900 a Regular Army of no less than 375,000 men in round numbers, with 24,000 men still left in the reserve, and 25,000 Royal Reserve men (the finest battalions perhaps ever seen), not to speak of Militia and Volunteers to the aggregate number of 300,000 more behind them.<sup>2</sup>

Under the proposed scheme the Regular Army of long-service men could not have found more than about 125,000 men for South Africa, and the General Service Army would have been called on to supply no fewer than 325,000 for the front alone, not counting the 200,000 which we must regard as the minimum which would have to be left at home. But would these general service battalions, with an average of only one year's training, have been equal on the veldt to the Regular battalions, squadrons, and batteries we actually sent to the front? Would they have been better, in fact, than the Militia who, if inferior in average length of service, had a far higher proportion of older and more responsible men to stiffen their ranks? Opinions may perhaps differ.

Perhaps a 100,000 men contingent and two years' service would do better, but seeing that not even the Norfolk Commission contemplated more than a four years' liability to service and fixed the

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<sup>1</sup> Working out the saving to the nation due to this diminution of work-house population, we find that without the Army we should have at least 12,000 more paupers to support, which, at £30 a head, means £360,000 a year, as a set-off against the estimates.

<sup>2</sup> See Diagram No. II.



strength of the total force at 385,000, in either case we should have been unable to meet the numerical demand without having recourse to voluntary enlistment from the classes who had already discharged their liability to the State beforehand. Would they have come forward with equal alacrity to that displayed by the present Volunteers under these circumstances?

If the comparison is unfavourable even under this comparatively small strain upon the nation, it becomes even worse under the conditions of the great war I am contemplating, when perhaps 500,000 men in the East, 1,000,000 in Europe, and another 1,000,000 for home defence may be a minimum demand.

Let us admit for the moment that in either case, men whose liability for service has expired will come forward with equal readiness. Then, instead of a nucleus of nearly 1,000,000 seven-year men with which to stiffen the new battalions, there will be materially under 100,000, and instead of having the existing cadres of the Regular Army, Militia, Yeomanry, and Volunteers, all with more or less long-standing traditions and associations, available for expansion, there will only be the dépôts of the three former, *i.e.*, 300 fewer battalions to fill up than at present, and it is certainly open to question whether entirely new formations of men with one, or at most two years' original training, would possess equal fighting value to those units already pre-existing and expanded by the pick of the Militia and Volunteers, stiffened as above suggested by from 20 to 25 per cent. of men between 35 and 45 years of age, and with seven years' service in all climates behind them.

It is difficult to make this point sufficiently clear owing to the absence of information as to what our reformers propose to do with existing dépôts and cadres; but under any arrangement of units I have been able to suggest to myself as compatible with economy and the principles of proposed reforms, it appears to me that the troops we could under existing conditions *grow* out of our present organisation, would have a considerably higher fighting potential than we could *create* by any other arrangement which may be instituted. Thus the pick of an existing Volunteer or Militia regiment, taken at 600 men and made up with 200 ex-reserve men and 200 young soldiers from the dépôt, would, I think, be superior to a battalion of men who had only done one year, or at most two, in the ranks under conditions of compulsory service, for the units actually under arms on the outbreak of hostilities would average far too young, whilst those between thirty and forty years of age would have been far too long out of touch with the Service to fall readily into military habits again—habits with which the Volunteer or Militiaman has never broken, and which a seven-year man, of course, can never shake off.

If to meet this difficulty we extend the liability of service to the 45th year as abroad and compel the men to come up from time to time for periods of training, we not only paralyse all industries on the outbreak of war, as pointed out above, but introduce what is felt in all Continental countries as by far the most galling part of the compulsory service yoke, *viz.*, the feeling of insecurity that surrounds every man's working life as to his future. The risk of war may be, and generally is, readily accepted, but the possibility of having one's whole personal prospects dashed by a sudden and apparently arbitrary order to come up for training proves in practice by far the most harassing load for men to bear.

This I know from personal observation and inquiry, both in France and Germany, and the mere fact that practically all proposals before us, consider an annual or at least biennial recall to the colours of the reservists as essential, convinces me of the superficiality with which all reformers have studied the subject.

"Dans la guerre le moral est pour les trois quarts, le reste est peu de chose," said Napoleon, and if the saying held good a century ago, when it was possible to launch men to an attack in dense, heavy masses, fourteen battalions deployed one behind the other, with lancers in the rear to encourage the laggards,<sup>1</sup> how much more must it be true to-day, particularly in this country, where, under fire, the soldier is left almost to his own devices. Yet in all these discussions we have left out of sight the essence of the whole matter, viz.: Will compulsory service troops fight as well as volunteers?

The glamour of German successes and the extraordinary collapse of public interest in military questions which occurred a few years after the campaign of 1870 have led us to answer this vital question in the affirmative, but I submit that we have done so on altogether insufficient evidence, for revelations supplied by the subsequent works of General Meckel (the instructor of the Japanese Army) and of Captain Hoenig, both written to remind the younger generation who had joined since the war how imperative close-order discipline still remains, must suffice to dispel any doubts on the matter whatever.

The mere fact that around German mess tables and in their military writings, such a word as "Massendruckerbergerthum" could ever gain currency indicates the extent of their trouble, and since the word has no equivalent in English, hence is not to be found in any dictionary. I subjoin the following quotation<sup>2</sup> to indicate what it really means:—

"I recalled my first battle in France. We did not arrive in the field till late in the day, and crossed it where the fight had been fiercest. The field was literally strewn with men who had left the ranks and who were doing nothing. Whole battalions could have been formed from them, we could count hundreds, some were lying down, their rifles pointing to the front as if they were still in the fighting line; others had squatted like hares in the furrows; wherever a bush or ditch gave shelter there were men to be seen who, in some cases, had made themselves very comfortable. All these men gazed at us without showing the least interest. I heard them say: 'These fellows, like the others, are going to let themselves get shot.'

"During our advance, and before we came under any serious fire, we saw six men, one behind another, in a long queue cowering behind a tree; afterwards, the sight grew so familiar I became accustomed to it—who did not?"

The excuse that this was the consequence of the appalling effect of the fire of the breech-loaders, will not hold water nowadays, when it has long since been made evident by the analysis of the statistics of losses made independently in Germany, France, Austria, and England, that on no occasion were these losses, in regard to the duration of the

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<sup>1</sup> Note Macdonald's Corps at Wagram.

<sup>2</sup> "Midsummer's Night Dream," well-known to have been written by Meckel. See also Hoenig's "48 Hours of Moltke's Strategy," and his "Combats in the Quarries of Point du Jour and Rozerieulles."



time of infliction, in any way remarkable. So far from this being the case, they were relatively far smaller than those endured by war-seasoned troops of all countries in the days of the muzzle-loader, and to find a parallel one must go back to the early years of the French Revolution before Napoleon's genius had found out a way to employ them in such ruthless fashion that it became physically impossible for the weaker to stay behind.<sup>1</sup>

In America, from 1862 to 1864, the experience also was all in favour of the Volunteer, for it was not until the "Draft Act" was put in force in the North that "skulking" became a serious evil.<sup>2</sup> In South Africa the whole psychology of the case was so different that a direct comparison is out of the question. The extraordinary disparity in the mobility of the opposing sides compelled our men to fight under most disadvantageous conditions, and the instinct which leads men to show white flags when visibly surrounded is a totally different one from that which induces them to stay behind in a victorious rush.

The paragraph from Meckel I have quoted above, was well known to very many British officers during the nineties, and they used their eyes to detect anything of the kind, both in Tirah and Africa. I have communicated with many, and all have assured me that they at least saw nothing of the same kind, but remain convinced that had it been possible to deprive the Boers of their superior mobility, by the capture of their ponies for example, our attacks would have got home with the bayonet just as they did actually at Talana Hill, Elandslaagte, Belmont, Enslin, and Pieter's Hill, and when they failed it was entirely and always due to the want of the impulse of successive "Treffen" which German, French, and Austrian writers<sup>3</sup> have always indicated as the only road to victory, and which view has been so completely substantiated by recent Japanese practice.

Summing up the whole question, it appears to me from the detailed study of the evidence of the past hundred and fifty years, that conscript armies never have fought well except when, over and above the

<sup>1</sup> In the early battles of the French Revolution the percentage of loss per hour rarely rose as high as 1 per cent., having fallen from 6 and 7 in the Seven Years' War; under Napoleon again it rose to 4 and 5. (See "Geist und Stoff in Modernen Kriege," by C. von B.K. Vienna. Published about 1893).

<sup>2</sup> See "The Volcano under the City," a book published about 1892, in New York, for information as to the effect of the Draft Act. Also Wilkinson's "Life in the Ranks of the Army of the Potomac" (New York, about 1893). This last book is particularly valuable, as it is the only one with which I am acquainted which shows the readiness of Volunteers with a sufficiently obvious stake before them to submit to the sternest discipline.

Since the men could not be flogged, they invented field punishments of most cruel descriptions, such as crucifying a man on a spare gun wheel by lashing him to the felloes—St. Andrew fashion. Straining him over the forage racks of G.S. wagons, etc. Revolvers also were freely used on parade, to secure immediate obedience. All this was a spontaneous revolt against the laxity of discipline in the early stages of the war. Personal enquiry has confirmed the reliability of his evidence.

<sup>3</sup> See also comments by Fournier-Langlois, and the German Official account of the Boer War.



compulsion of the law, there has also been the compulsion of hunger,<sup>1</sup> hardship, and distress for them, and those behind them, to drive them forward. Thus, as long as the terror lasted in France, men, though conscripts in name, were Volunteers in fact, for even when they did desert on the march, as they frequently did in wholesale fashion, they generally rejoined of their own accord a few weeks later, but when affairs at home became more settled, and the Emperor's "method of making war," *i.e.*, without magazines and practically without provision columns, brought home to the soldier on the wintry wastes of Poland that life, even in poverty in his own village, was far preferable to the chance of glory with the certainty of hunger and misery in the field, the quality of his armies fell off, recruits became "refractaires," and it needed flying columns over 35,000 men in the aggregate to bring them to the colours.<sup>2</sup>

But hunger and misery behind us is precisely what we shall have in the coming struggle, and the essence of the whole question seems to me to lie in this: that our Government, whilst taking measures to minimise the possibilities of serious troubles arising from bread riots, can, at their will, and from time to time, arrange for precisely that amount of pressure which will compel men to go to the front with the determination to shorten the nation's sufferings, *i.e.*, to sacrifice their lives for the sake of those they leave behind them.

It is this adjustment of "pressure to the load," to use an engineering simile, which our existing organisation supplies, which is all important to our ultimate success.

Compulsory service would generate a head of steam, which would blow our recuperative machinery to pieces, for the valves it supplies, as above pointed out, are not big enough to relieve the excess of pressure with sufficient rapidity.

Let us consider in a little more detail what must inevitably happen, assuming for the moment, say, a five years' liability for active service only. Under existing conditions the two to three million men thrown out of work would automatically flock to the Volunteer centres primarily, for these (304 battalion head-quarters, and, perhaps, double that number of company centres) are distributed all over the country, in greatest density where most required, and are familiar to everyone. They would not go to the Regular Dépôts or Militia in the first instance, for the conditions of service would appear to them too onerous, and few would have imagination enough to realise the duration of the struggle before them; but once there, the logic of events would induce them to stay until their prospects appeared to improve outside. The prospect, however, would not improve all at once, and when and as they realised what we were in for, they would volunteer for service in the Regular Army (the only one which would be allowed to go to the front) in thousands. If, under the depression produced by the "Black Week" in December, 1899—which did not, as a fact, even ripple the pool of industrial employment, 80,000 men came

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<sup>1</sup> See letter of the Major-General to Soult, in October, 1805, when Soult complained that his men were starving. "Colin's Campaign, 1805," published 1902.

<sup>2</sup> See "Les Refractaires" in supplement to *Militär-Wochenblatt*, 1887.

forward,<sup>1</sup> 800,000 and thrice that number would respond when starvation was the only alternative behind them.

The expansion of the Regular Army could then follow its normal course as originally contemplated in Lord Cardwell's scheme. Each dépôt battalion would be immediately filled out to war strength and give off a nucleus for a second one, and so on for as many as might be required, each being filled as far as possible with 20 to 25 per cent. of ex-reserve soldiers, 25 per cent. of young soldiers, and 50 per cent. either of Militia or Volunteers, and each would go to the front as integral portions of the old regiment with all its territorial connections and distinctions—the plan to which Napoleon invariably adhered as far as possible. In point of age and general composition, these units would be admirable—men of mature age in sufficient numbers to leaven the mass, and enough youngsters to give it the necessary dash. As to physique, they might not be so satisfactory, though they would probably be as good as any others we could obtain under any alternative system, for the literal fact is that we do not grow enough men with sound teeth, eyesight, and digestion to meet the severity of our medical tests. But though in small wars at a great distance from our base and under trying climatic conditions, it is poor economy to send out any but the soundest, in national emergencies close at hand we cannot afford to be economical, and in any case they would be far superior to the conscripts Napoleon handled, with brilliant success as far as he himself was concerned, in 1813-14.

The Militia and the Volunteers would remain embodied for home defence, ostensibly—practically to keep them off the rates. And here we come to what to my mind is and must be the principle reason for retaining them both on their present bases.

The conditions of distress in the labour market would not be constant or uniform in different districts. After the first shock, commerce would soon begin to recover itself, and new fields would open out, all having for their object the satisfaction of the most pressing needs of the community. The Militia and Volunteers being for the most part commanded by men of considerable county or commercial standing, would have their fingers on the pulse of every such fresh development, and might be conceded very extended powers of furlough in order to supply labour of the best kind in the directions most required. Such powers could not with equal safety for their judicious employment be confided to Regular officers, for our knowledge of modern commerce is not our strong point, nor would it be easy to draft any law of enlistment for a General Service Army which would be sufficiently elastic; for Regular soldiers there can only be one law, and that must be clear and well-defined. It is to be hoped we may never again witness the anomaly of men fighting side by side in a common cause, some drawing five shillings a day, the others—and the majority—one shilling only.

In this manner we obtain a guarantee that what recuperative work inside our islands will be possible during the continuance of hostilities will be supplied with the best possible kind of labour, and hence be the most remunerative in proportion to the capital available. Hence again more capital will be attracted, whereas if no such

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<sup>1</sup> See recent correspondence in the *Spectator*—20,000 men were accepted, at least 80,000 volunteered. Also return issued by Committee of Volunteers C.O.'s, 1905.



adaptability were available, capital would be discouraged rather than attracted; but the result of the campaign will be decided ultimately by staying power, and therefore our chief aim must be to foster what is the main-spring of our whole efficiency, viz., capital.

A further cause for retaining them as two separate organisations as at present, of only less importance than the one already given, arises from the fact that each has sprung from different origins, and both have in the lapse of time adapted themselves to their special surroundings. The Militia can afford to give a month of their time without inconvenience sufficient to check their normal flow of recruits, which year by year has remained very constant. The Volunteers can only give chance hours which they can spare from their work, and the attempt to exact more immediately encounters resistance.

To deprive the Militia of their additional training to suit the Volunteers, or *vice versâ*, would therefore presumably ruin both in peace, and in war would diminish their adaptability to the commercial needs of the moment, whilst in case of internal troubles arising from the pressure of want on the population, it is of the last importance to have the two separate organisations to play off one against the other. Personally, I consider that the Volunteers would actually be the most reliable force to employ in the event of popular disturbances, because they represent on the whole, when expanded by the older men who must flock to the colours under pressure of starvation, the pick of the working class population from the standpoint of patriotism and intelligence, and as such would be the first to realise the importance of checking mob violence at the outset. As a body they are commanded by men who have a large stake in the welfare of their several cities, and a very strong business interest in keeping down the rates. Where both Regulars and Militia, having no local interests to protect, might be apt to assume a too judicial attitude towards rioters, the Volunteers might act with what afterwards might appear as unnecessary vigour, but which would be most effective in its immediate consequences, and so far more important for the welfare of the State. In such cases it is quite immaterial whether legal process subsequently shows that the wrong men may have been killed, the only point which really matters is whether you have killed enough to make it quite certain that the necessity will not arise again.

But though I hold this opinion of the value of the Volunteers very strongly, I would nevertheless not dispense with the additional safeguard for law and order which I recognise in the existence of the two forces, for circumstances are quite conceivable in which we might have to use the one to overawe the other, just as in India we have from time to time to move a Mussulman regiment into an essentially Hindoo district, or a Sikh one into either.

It is contended by the advocates of compulsion—and this indeed is the strongest point that they make—that their proposals would automatically induce an abundant flow of officers to the Army, and that these could be compelled to study their profession far more seriously than the present holders of the King's commission. I grant the strength their position at first sight presents, but I submit that for the moment we have gone too far in our appreciation of the merely technical side of an officer's duties. This is a natural consequence of the peculiarities of our South African experiences, in which by the nature of the case an extraordinary strain was thrown upon



even our youngest holders of commissioned rank, and I base my strongest hopes for the future on the astonishing manner in which this load was assimilated by the vast majority of all who went to the front.

In the great war of masses which lies before us, there is little scope for the exercise of tactical judgment in the junior ranks. A company leader in the midst of a line of battle formed of half a million men on a front of ten miles has but small opportunities of displaying his tactical resource; his duties are limited almost to exact obedience to elementary principles and to the setting of a superb example of physical courage to his men. But books alone cannot teach this latter quality, which, in so far as it is not innate—and it rarely is—is mainly a product of a strong character, trained and developed by years of exercise of responsible power. Now, in the Regular Army, the “struggle for existence” is far less keenly felt than in civil life, and in a model regiment a man may pass years without one single necessity of staking his whole future on the result of his own decision. In civil life, however, and most particularly of course in the great engineering, iron, and coal industries, this necessity to decide and act is ever present, for there is no sergeant-major and the guard-room to enforce obedience; hence men learn to command by sheer force of their own personality, and above all to study the characters of the men under them. To such types the acquisition of mere technical knowledge comes very easy, and I leave it to my readers to decide which of the two types is likely to prove the more valuable in those great moments of tension for which after all no drill or tactical regulations even presume to prescribe.

As a practical illustration, I would again contrast the conduct of the American voluntary levies at Fredericksburg, Gettysburg, Petersburg, Cold Harbour, Spottsylvania, Chancellorsville, etc., with the fighting in the Mance Ravine (18th August), as Hoenig describes it. Even the conduct of the Prussian Guards at St. Privat looms small when contrasted with the bearing of Pickett's division at Gettysburg.

“In war,” as Clausewitz wrote, “everything is simple, but to secure simplicity is difficult”; we are in great danger of forgetting this most vital truth.

Pickett's division had undergone less than a year's training—under fire for the most part, certainly. But the 1st Maine Heavy Artillery,<sup>1</sup> whose endurance at Spottsylvania and in the futile assault at Petersburg (18th June, 1864) was one of the most marked episodes in the war, were exclusively peace trained, and neither had even a tithe of the war-seasoned veterans and officers with which we can afford to stiffen our own first Line troops. The cause of their failure lay in the want of an experienced staff, capable of ensuring the exact and punctual execution of the designs formed by their respective leaders, and this want under competent direction our own Regular Army may be relied upon to supply; but with men trained like these, “to know how to die, not how to avoid dying,”<sup>1</sup> and under the conditions of armament of the present day, which, in the hands of a great leader, ensures by the power of convergence conferred by its increased range

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<sup>1</sup> See Regimental Records, U.S.A., and “Losses in Battle” article in Scribner, 1895.

the certainty of sufficient fire preparation on any desired objective before assault, what limit can we set to what such men might accomplish?

If the Japanese, fighting under topographical conditions which almost paralysed their strategic offensive, and relatively weak in artillery as they are known to have been, could carry such positions as those at Nanu-shan, Liao-yang, and Mukden with gross losses far inferior to those endured by the Americans, what should hinder us, under the topographical conditions of Western Europe, from equalling their performance when the time comes to strike?<sup>1</sup>

The choice of time is, in fact, at once the essential factor and the true secret of our strength; indeed, I am inclined to believe that the possession of a large army, large as judged by Continental standards, and capable of almost instant mobilisation like those of our possible enemies, would most seriously imperil the prospects of our ultimate success, should we find statesmen capable of resisting the pressure of newspaper public opinion, urging them to strike home and end the suffering of the nation by a single blow. To do so, however, in the early stages of such a war would be to play the enemy's game, for any force for which we could conceivably find transport *for a single trip* would be crushed by the numbers that any one of our great adversaries could readily concentrate against us at the commencement of the campaign. After a year of hostilities the outlook would be very different, for the strain on the internal condition of any foreign Power would act far more quickly than we in England have as yet apprehended.

Our enemies are in this dilemma—their machinery, like that of an ocean liner, is designed to work at full power only; at low speeds it is not economical. Now, to mobilise their whole army costs one million a day in round numbers, and paralyses all commercial operations, whilst to mobilise only a portion creates centres of disaffection which may lead to most serious political troubles, a prospect none of them will care to face.

There being by hypothesis no ocean borne import of food conceivable, there will be an accentuated demand for agricultural labour, and to mobilise the essentially country corps would be to hasten distress in the great commercial centres; on the other hand, to call out the town corps destroys the purchasing power of the civil population, thus in both cases playing into the hands of the socialist agitators.

We can see what is happening in Russia, the most invertebrate member of the European communities, and thence estimate how far more rapidly the more sensitive organisations of France and Germany would respond under the heavier pressure a blockade of the Atlantic seaboard would impose; for though the back doors through Russia, Austria, and Italy would remain open, the excessive railway rates, excessive as compared with seagoing freights, would very soon create a commercially intolerable situation.

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<sup>1</sup> All those districts of Western Europe in which we may have to fight owe their topographical features mainly to the great "Ice Cap" (see Geikie's Geology, etc.), hence the slopes of the hills are almost invariably convex, not concave, as in Baloochistan and South Africa. This convexity renders it difficult to obtain a wide field of fire for entrenchments, except by placing them so far down the slopes that reinforcement is practically impossible.



Meanwhile, the resources of the world for war purposes would be pouring into our country, or organising in our Colonies, to come to our support, and the whole question appears to me to turn upon whether at this supreme moment of the national existence, we shall be able to find a real artist in war, a man who, to quote Moltke's definition of the art of war: "Knows how to make the best practical use of the materials at hand for the attainment of the object in view."

That his task would be immensely facilitated if we could give him a ready-made army, complete, according to theory, in cavalry, artillery, and infantry, is, of course, not to be disputed, and that with such he could attain his ends at an infinitely lower cost in human life and suffering than with our present inchoate machinery also goes without saying; but the essence of greatness is to control circumstances, not to be controlled by them, and I am firmly convinced that if the heart of the nation is still as sound now as it proved to be under similar circumstances one hundred years ago, that great man or a group of great men will be evolved in time for the decisive moment as surely as the sun will continue through all human existence to rise in the East.

Meanwhile, every step we take towards national military efficiency will be of service to him when the time comes, and since one at least—the creation of a great General Staff—seems to the mere human understanding an absolutely indispensable preliminary to the discovery of the man himself, or in his absence of the staff which must supply his place, let us proceed to its formation by the considerable expansion of the nucleus we at present possess. This nucleus is absolutely sound as far as it goes, but it is far too small to exercise its true functions in peace, and needs above all things the development of a new organ to take scientific cognisance of the forces, and their effect on human nature in all its phases with which it will have to deal.

This new organ is a strong and capable military history section, adequate in number to collect and collate the information and statistics needed as a basis for all sound scientific generalisations. At present our defects are all directly traceable, not to the ineptitude of the past or present generation of officers, but entirely to the empiric nature of the information on which they have been compelled to work. Each may have been right in his conclusions from his own surroundings, but there has been wanting the master to collate all observations and reduce them to one common datum level. The mass of information, however, has been too great for one finite mind to cover, but given systematised investigation, and the task would be reduced to manageable dimensions.

From this step everything would follow—the composition of the general staff itself in the first place; the proportions of the three arms and of transport, etc., in the second; and finally, a consensus of expert opinion would arise, as in Germany, on which the country might safely rely for the promulgation of all such changes of the principles of enrolment which alterations in our civilisation may render expedient. All other reform I hold to be dangerously premature, for on such matters no one mind can accumulate facts enough to inspire confidence throughout the whole nation in its conclusions, and without such confidence, no reform has any chance of permanent success.

But with the materials nowadays accessible to us, through the exertions of similar bodies to the one proposed above in France,



Germany, and Austria, I confidently believe that the task of creating order in our present chaos, and, what is more, of inspiring confidence in its military leaders in the hearts of the people, would be well within the competence of a very average man. To meet emergencies by the appointment of Royal Commissions, consisting of men who, however eminent, have received no serious scientific training in all that military history reveals, and to expect them to arrive at sound conclusions from the testimony of witnesses, whose training is as empirical as their own, is a waste of time, and time is the most precious factor of all at the present juncture. Yet, if our training of our scientific corps is not a most puerile farce, and the evidence of work accomplished in scientific fields by their past members is all against this view, then it is certain that we possess in the Army, men in every way the intellectual equals of those of any other, but they are condemned to sterility because our governing body does not seem able to apprehend the elementary truth taught by Moltke in the Prussian War Schools, that the "military sciences concerned with the conduct of war are as susceptible to scientific method as those employed by any other art—architecture, painting, etc.—and that one of the primary purposes of a general staff is to investigate these by scientific enquiry and place the results at the disposal of the 'artist' in war, who is to apply the whole."<sup>1</sup>

I do not think that within reasonable limits it would signify much who was appointed to such a post, once the central idea was thoroughly grasped, and, the co-operation of all who could supply information secured, the rest would follow automatically, but, of course, the abler the man the sooner sound results would be achieved.

Given the foundations this mass of accumulated knowledge would supply, we could then proceed to the training of a general staff in the handling of large bodies, both strategically and tactically, for experience shows that with only moderate numbers this end can be attained—*e.g.*, the Prussians before Sadowa—and, indeed, all Europe ever since, for neither French, Germans, nor Austrians have ever concentrated more than 100,000 men for manœuvres, a number well within our powers, both at home and in India, and with the possession of such a staff, the one stumbling block of all emergency armies would at once be removed.

This is the one point in which all such formations have failed, and the one which it would seem not even supreme genius can surmount.

Tactically, the Napoleonic Armies in 1796 and 1800 were far behind the Austrians they opposed, in equipment they were miserable, but their numbers being small, his genius sufficed to impart that unity of purpose on which alone success depends. To the eye, his conscripts of 1812 and 1813 were far superior in efficiency, but he failed to secure combination in time and space for want of an adequate staff service. Under his own eye his consummate tactical skill still sufficed to ensure them the victory, though his infantry no longer fought willingly, and his cavalry had lost all power of manœuvre. In the American War of Secession, the Northerners were far superior in efficiency, judged by every peace time standard, to their opponents, they were equally brave and numerically preponderant; but they had

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<sup>1</sup> Condensed summary of his reply to Max Jähns, given in the introduction to the latter's "*Geschichte der Kriegswissenschaften.*"

no staff capable of combining all their efforts on one decisive objective; hence, the war dragged on for four years, and both in 1866 and 1870 it was the superior quality of the Prussian General Staff which conditioned their victories. Surely, then, the conclusion is plain; but we cannot act upon it immediately, not because our men are wanting in any of the qualities needed when judged by any European standard, but simply and solely because we have not realised what "scientific," as opposed to "empirical" method, really means.

For want of this we are wasting time, energy, and money, with the sole result that confusion becomes worse confounded, and our officers are being harassed into resignation at a time we can least spare their services. Such, after all, has been the invariable prelude in all Armies to the appearance of the great genius, for this very ferment and distress indicates the vitality which must end by producing the man. Like a chemically supersaturated and quiescent solution, we need only the slightest impulse from without to crystallise out in regular order. Had we remained lethargic, like the Austrians before Marengo, or the Prussians before Jena, there would have been most serious grounds for despair, but as it is the very violence of our fever convinces me that we are on the high road to recovery. First, we shall find our "Carnot," then our "Napoleon," for we are rapidly approaching the same ordeal by *hunger* which a century ago primarily conditioned the French Revolution, but moving faster by reason of the increased facilities for intercommunication our century affords. Our gradual relative loss of our share of the world's markets, from which we are being ousted by the commercial policy of our rivals, directed and subsidised to that end by the State itself, will create conditions of scarcity against which we shall be compelled to resort to arms, and then the trained manhood of the nation will flock to the colours precisely as did the people of France, for like causes produce like results, and then, as in the French Army again, our conflicting theories *de l'ordre mince et de l'ordre profonde* the same in essence then as they are now, will be adjusted by common sense practice on the field of battle itself. Napoleon did not create the Army, which, in his hands, became the most potent instrument of victory the world has ever seen, the army grew itself, and it grew because, throughout all its previous vicissitudes, it still retained sufficient vitality to think in advance on tactical and strategical subjects, and it was this accumulated thought of many which, in his hands, became its driving principle; it was not his phrases which drove the army, but his ability in choosing the phrase from current literature to which he knew his men would respond, and we shall tread the same path. We shall pour out blood like water, until the conditions of the moment evolve the man for the place, and all we can do in advance is to train for him a staff through which he can communicate his will to the potential armies, to be formed out of the trained men the nation has already *grown* not "created."<sup>1</sup>

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<sup>1</sup> Since writing the above, by a curious coincidence I have come across the following quotation from Guibert, in Captain Colin's admirable "Education Militaire de Napoleon," p. 107. Speaking of the state of the French Army, about 1778, and its prospects in the future, he says:—

"Alors un homme s'élèvera, peut-être resté jusque-la dans la foule et l'obscurité un homme qui ne se sera fait un nom ni par ses paroles ni par ses écrits, un homme qui aura médité dans le silence, un homme enfin



In conclusion the proposals I would submit are few and simple, and may be summarised as follows:—

Restore to the Regular Army the conditions of service to which the nation has grown accustomed, and which have served us so well. The new General Staff could ultimately determine whether to create a further reserve from the men over twelve years' service and under forty-five years of age. To me this seems unnecessary, since hunger is the all-sufficient compelling cause. Only as a matter of policy it might be well for other nations to realise what our total strength of seven years' trained men amounts to.

Retain the Militia and Yeomanry as they are, merely establishing machinery to trace what becomes of the men after leaving the colours. This could best be done by the leading county people combining in associations to recognise the value of the services they have rendered by assisting them to obtain employment, and particularly by alleviating special cases of distress amongst the very old. No man who has ever done anything for the nation, however small, should be allowed to feel that he is entirely without friends in his old age; but also the help given must appear to be voluntary on the part of the giver, not a claim on the community at large.

For the Volunteers as for the Regulars, I advocate continuity of conditions. The movement is only in its infancy, for corps are only just beginning to realise what they have accomplished already and may in the future attain to. Let them also keep trace of their retired members and endeavour to knit the whole body together with some stronger sense of community of interests. In many corps which have discharged their preliminary liabilities, considerable funds will soon be available with which a system of old-age endowment policies could be initiated as rewards for the smartest and most intelligent men, to be held for a fixed term of years in each rank. Such a scheme has recently been brought to my notice by which a smart soldier obtaining such a "scholarship" of the annual value of £10, and holding it 3 years as a private, 4 as corporal, 5 as sergeant, could, on attaining 55 years, receive about £320—enough to buy himself a very decent house, or get an annuity of about £25 a year. (I have not the actual figures before me.) It would also be quite possible for corps to give rewards to their men who would take advantage of the new County Council Technical Schools and so forth. All practically successful men realise that education without character is worthless, and many rich men who will do nothing to help education alone, might be found who would willingly encourage in this manner the only school for character which exists outside of the Regular Forces. Emulation between the several corps is already producing better and more attractive drill-halls with all their appurtenances, and the idea might be extended to the provision of suitable sleeping accommodation—something on the lines of the Rowton Houses—so that by combination the men might obtain all the advantages of a club whilst the nation would benefit by the development of the stronger *esprit de corps*

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qui aura peut-être ignoré son talent—qui ne l'aura senti qu'en l'exercant, et qui aura fort peu étudié. Cet homme s'emparera des opinions, des circonstances, de la fortune; et il dira du grand théoricien ce que l'architecte praticien disait devant les Aethéniens de l'architecte orateur 'ce que mon rival vous a dit, je l'exécuterai.' ”



which only arises when men live together in barracks, and to which our enemies in South Africa ungrudgingly gave their admiration. These things will all come of themselves, for they are "in the air," and emulation and free discussion will provide the solution, and as they come the popularity of the force will continue to increase, and my estimate of our total of trained men will not only be exceeded, but the strength of the tie on which all fighting efficiency is dependent will be rendered more and more reliable.

But my estimate already exceeds what any alternative system could give us, and therefore I submit that my solution of the problem set before us in the thesis for the essay completely meets the case. It makes the best use of the available materials, it is the least irksome, because it is a natural growth, and all growth follows the line of least resistance, and it is the cheapest because it disturbs the existing relations between men and their employers to the least possible extent.

Cheapness cannot be measured by the Army Estimates alone, but must be judged by results, and what we need is the systematised investigation of what these results really are as measured by the increased "wealth-producing" power our military training confers on the race.

The problem is of course more intricate than in Germany; but I am convinced that careful investigation would show that even as we stand, and eliminating even the fruits of victory — Colonies, commerce, etc.—our Army and Navy in the past have won for us, our forces more than pay for their own support, and would do so even if we spent another £10,000,000 on them annually.

A railway spends perhaps £30,000 a year on maintenance of rolling stock—locomotives, etc.—and languishes. A new manager arrives and trebles that sum, and the line becomes a paying property, *e.g.*, the Great Eastern.

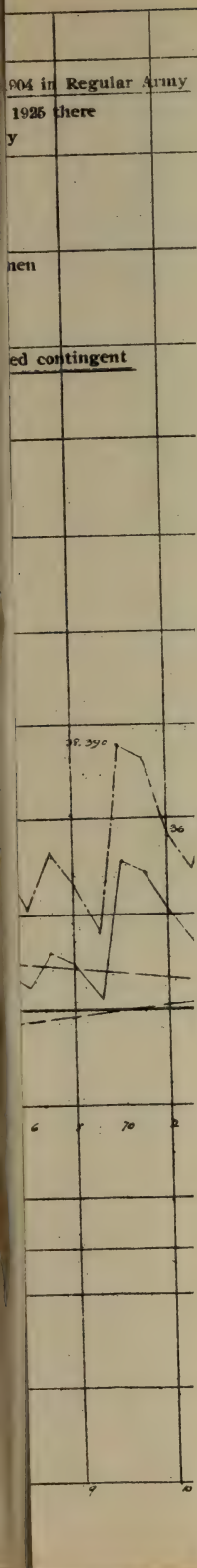
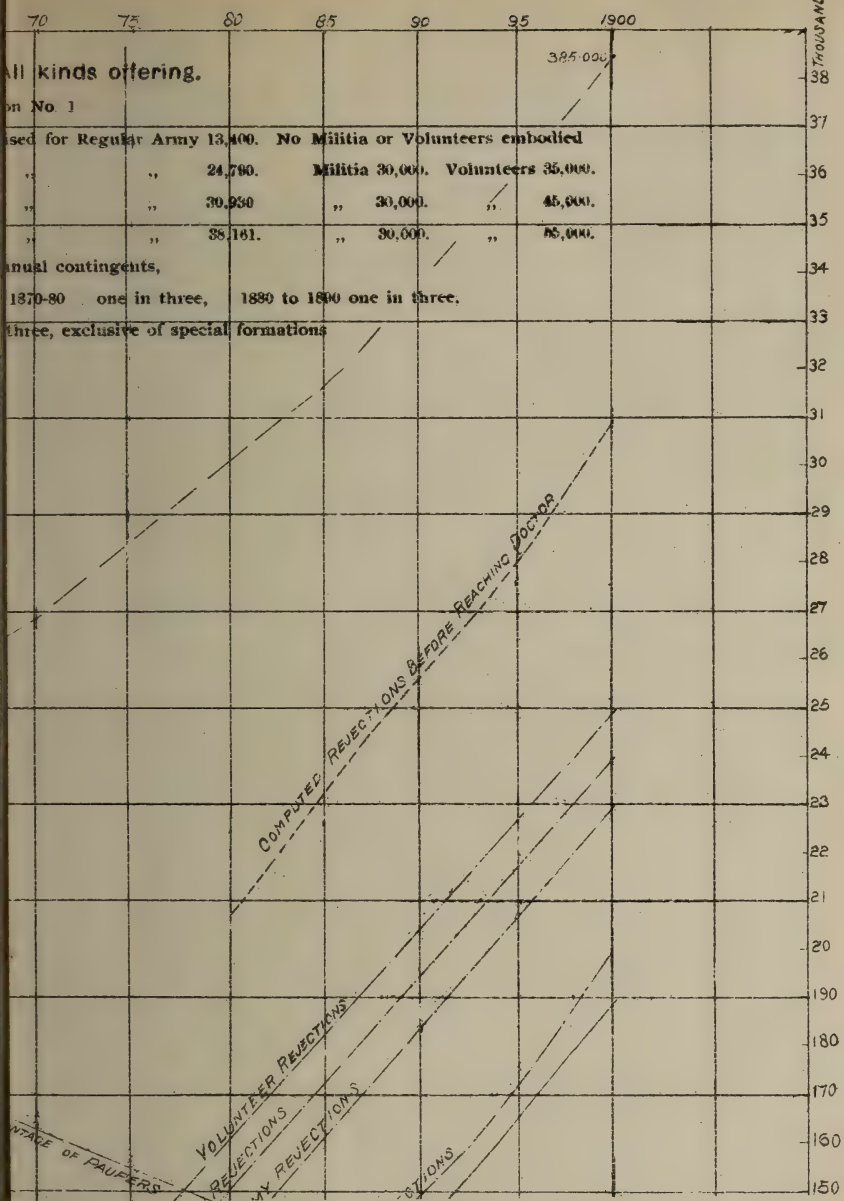






DIAGRAM NO. 2.



# RECRUITS All kinds offering.

This table shows gradual rise in popularity of Army - See note on No. 1

For 10 years 1840-50. Average numbers of recruits per annum raised for Regular Army 18,000	No Militia or Volunteers enlisted
1870-80	24,200 Militia 30,000 Volunteers 30,000
1880-90	30,000 " 30,000 " 40,000
1890-1900	38,161 " 30,000 " 40,000

If the Navy be added in this gives 14,000 about 1 in 20 of annual contingents.  
1850-60 War years one in five, 1870-80 one in three, 1880 to 1890 one in three.  
In 1900 War year, two in three, exclusive of special formations

## TABLE SHEWING TRAINED MEN (A. & N.)

Available (a) 1854.		(b) 1900.
(a) 1854	under 16- Regular Army and Navy plus men discharged	
		120,000
		200,000
		320,000
(b) 1900	Regular Army and Navy	500,000
	add ex-Reserve Army	400,000
	" discharged Navy	150,000
	" Volunteers	920,000
	" Militia & Yeomanry	784,000
	Grand Total	2,794,000

1905 allowing for increase of population  
Annual contingent will be 520,000  
Regular Army will train  
Volunteers and Militia  
Navy

1,180,000
2,960,000
200,000
1,640,000

DIAGRAM NO. 3.

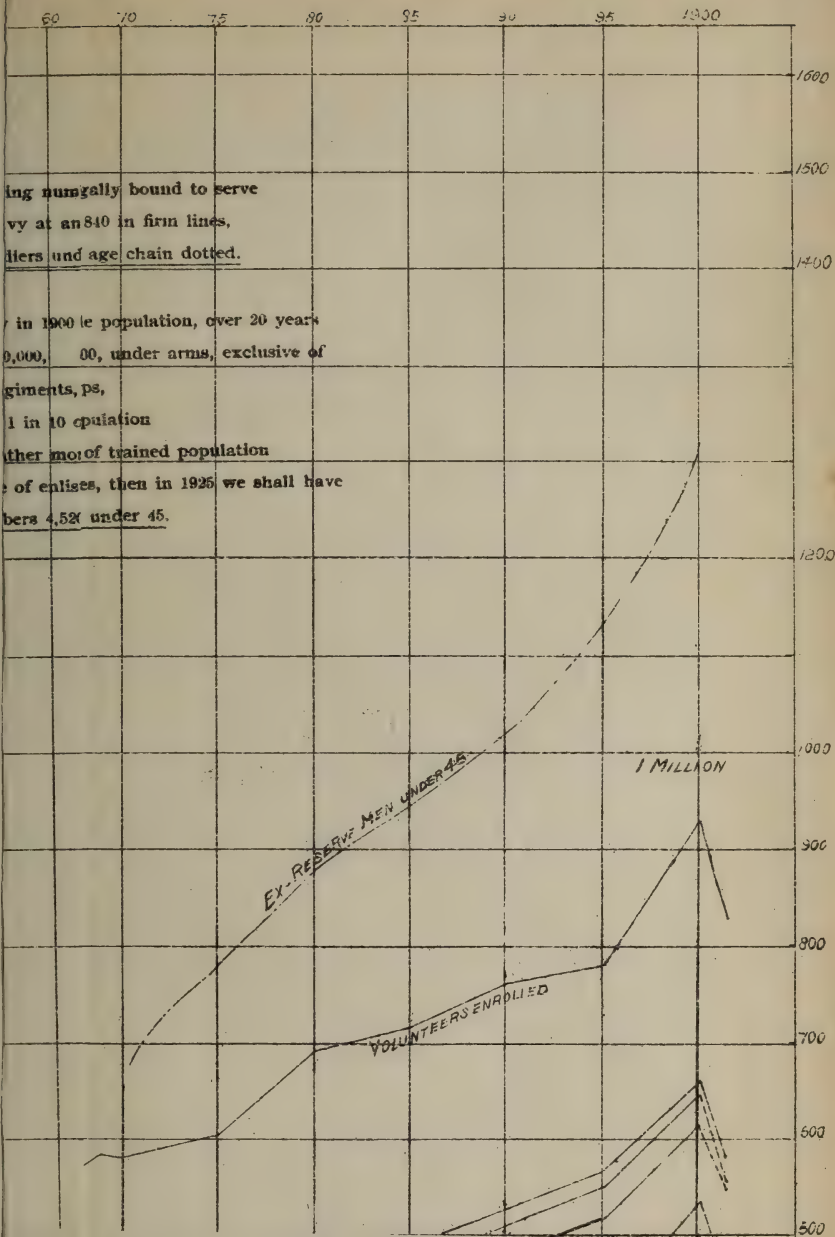




TABLE. Showing number of men legally bound to serve in Army & Navy at any date since 1810 in firm lines, ex Reserve soldiers under 15 years of age chain dotted.

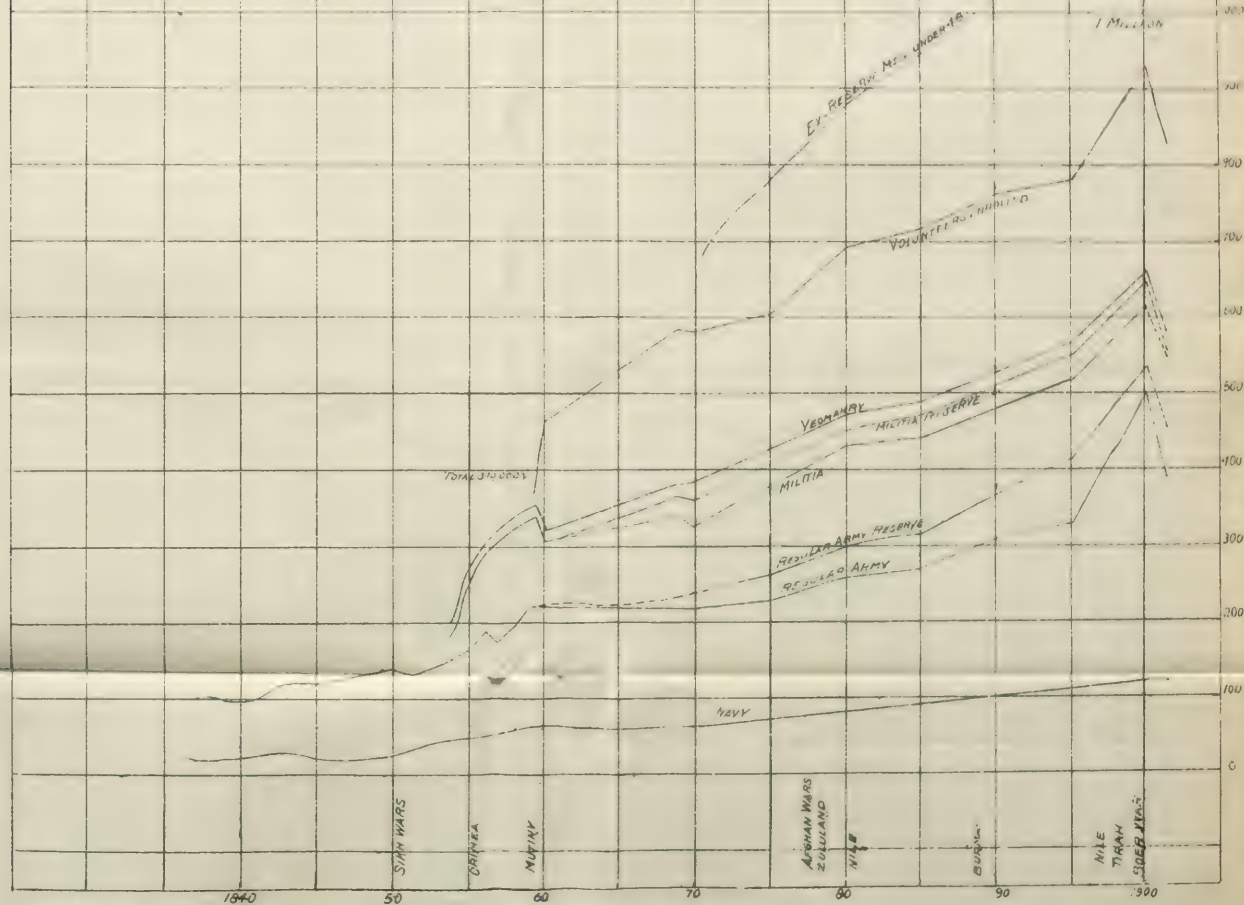
Approximately in 1900 industrial male population, over 20 years of age, = 9,000,000, of which 860,000, under arms, exclusive of

R Reserve Regiments, Colonial Troops,

or 1 in 10 of available population

Rather more than 1 in 3 of trained population

If present rate of enlistment continues, then in 1936 we shall have in round numbers 4,520,000 available under 45.



# THIRD PRIZE SPECIAL MILITARY ESSAY, 1905.

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*Subject :—*

“THE BEST, LEAST IRKSOME, AND LEAST COSTLY METHOD OF SECURING THE MALE ABLE-BODIED YOUTH OF THIS COUNTRY FOR SERVICE IN THE REGULAR OR AUXILIARY FORCES AS EXISTING, AND FOR EXPANDING THOSE FORCES IN TIME OF WAR.”

*By Major G. F. MacMUNN, D.S.O., R.F.A., D.A.A.G., Derajat Brigade, India.*

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*“Mene Mene Tekel Upharsin.”*

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IT is proposed to discuss in this essay the various points connected with the subject under the following headings:—

## OUTLINE OF THE ESSAY.

### *Introduction.*

### PART I.

1. The purpose we require troops for.  
The Premier's statement.
2. The actual forces we require.  
Possible wars.  
Expansion.
3. The *Rôle* of the Regular Army.  
The provision of recruits.
4. The duties of the Auxiliary Forces.  
The Militia.  
The Yeomanry and the Volunteers.
5. The *Rôle* of the nation.  
The civil gain from military training.  
Rifle Clubs.
6. Conclusion from Part I.

## PART II.

1. Compulsory training for lads at school.  
The existing military training for lads.
2. The proposed system.  
Public elementary schools.  
The staff.  
The cost of the cadet service.  
Other schools.
3. Criticisms, difficulties, and alternatives.  
The proposals and programme of the National Service League.  
Sir Edmund Barrow's scheme.

## PART III.

*Various Cognate Matters.*

1. Rifle Clubs.
2. The matter of the Navy.
3. The wastrel of England.
4. Existing institutions.

## PART IV.

*A Brief Recapitulation of Proposals.*

## APPENDICES.

1. Reference Appendix of *data*.

## INTRODUCTION.

The subject of this essay is intimately bound up with the intricate question: "For what do we actually require our forces?"

For generations this problem has never been settled, and now that the principle has been recognised that it is for the Government of the country to study closely the question of military and naval policy, a very genuine attempt, with the help of the Defence Committee and the General Staff, has been made to solve that question, the result of which was given to the world in an authoritative pronouncement of Mr. Balfour in May, 1905.

The more the question is studied from its numerous and often conflicting aspects, the more difficult of solution does it seem.

The problems of the Continental nations are trivial compared with those of an Empire that has grown without full design, by chance, by adventure, and by circumstance. Interests and territories in every portion of the globe, with empire over Continents under conditions that are hopelessly anomalous, yet unavoidably imperative, present a military (using the word in its wide sense) problem that has baffled generations of Statesmen. It is perhaps small wonder that in the stress of guiding a nation to freedom without bloodshed, the



scientific development of our forces, at any rate our land forces, has been allowed to slide, all the more so that no two could agree as to the groove to guide them to.

Were we, in this twentieth century, able to organise our national forces on up-to-date lines, without tradition and vested interests behind us, even as Young Australia might be called on to face a military problem, it would perhaps be a comparatively easy matter to evolve a sound, workable, and acceptable scheme. We have unfortunately to deal with existing forces, unbusinesslike and unsuited to modern requirements, but with which the history and the sentiment of the nation is so bound up, that at present no Statesman is able to persuade the country that we want something different, or at any rate to force a new system on an unconvinced public.

All students of war and of history must recognise how feeble are the available military resources of this country. The history of the earlier years of the American War of Secession, with the pitiful failure of citizen soldiers, even against men little better in training, is an open book pregnant with lessons which but few will even read. Our own bitter humiliations in South Africa are forgotten, while the feebleness of our national levies is hidden in our pride at their patriotism, and in the unmeasured praise of badly-informed journalists.

Our military system enables us to cope successfully, after the expenditure of untold treasure, with the semi-military, slothful organisations of Kabul and the Farmer Republics, at the cost of years of subsequent depression in business and advancement, but it will hardly be claimed that we are in a state to cope with a Power that brings its best brains and its best energies to the problem of its national forces.

There is hardly a German, and hardly a Frenchman, certainly in the Rhenish provinces, who is certain who his great-grandfather was, and thus French and Germans have a very firm resolve that the invader shall not lightly over-run their country again. The people of Natal, who realised to the full the bitterness of seeing an insolent and overbearing foe quartered at his ease on their soil, passed a universal training and service liability law within a few months of peace being declared in South Africa. Since no invader has swept through England for close on a thousand years, no one realises that the duty of the freeborn is to be ready to bear arms for his country. We dub national service "conscription" — the term applied to the yokels dragged by Napoleon to wars of aggression they had no concern in.

Thousands of English lads, who have never taken the trouble to learn their drill and the use of a rifle in their local Volunteer Corps, throng on Saturdays to watch and bet for hours on football matches. They laugh at the German bandsman and his bombardon in the road outside, or at the German waiter inside the pavilion, yet each of those Germans is a trained soldier, who of his own consent (since he comes of a nation with a constitution) is trained for the defence of his country, and is a far better man behind a hedge—or in front of one either—than our young Englishman, even perhaps if he be a Volunteer.

The point of the foregoing is, not that we in England need a system of universal service, as understood on the Continent, but that we assuredly do need a national feeling that it behoves every

youth to fit himself for the possible, if improbable, hour of his country's need.

The state of things where one man leaves his back garden and kids on holidays to go to the camp or to the rifle range, whilst his neighbour smokes in a hammock or takes the "missis" to "Ampstead," is not a creditable one, and is doing much harm to volunteering. The Volunteer, or more probably his wife, queries why should he work when his neighbour loafs.

It is, however, absolutely certain at present that nothing short of severe and far-reaching disaster, far greater than our troubles and humiliations in South Africa, will make the public consider seriously any form of compulsory National Militia. It is, therefore, incumbent upon those responsible for the military organisation of the country, or interested in it, to try to make the best of existing conditions, and to devise such a system as will develop the patriotic spirit that will bring men voluntarily to the ranks. Such a system should be if possible in such a form that the compulsory principle may be introduced later, without upsetting existing organisations, and it is on these lines that the proposition contained in the subject of this essay must be worked out. Before doing so it is necessary to enunciate the purposes for which we require our various natures of military forces, so that we may have a standard to work up to, and may understand the object to meet which any system of compulsory training is necessary or advisable.

### 1. THE PURPOSE WE REQUIRE FORCES FOR.

Up till May, 1905, the question "what do we maintain military forces for?" though the subject of interminable discussion and angry argument, had never been authoritatively stated by any person or body whom the country could accept as a final and responsible lawgiver on the subject. For years, therefore, all our military measures and reforms, however sound in themselves, had not been carried out as part and parcel of an attempt to attain to a recognised goal; but now for some time past the Defence Committee, in conjunction with the naval and military general staffs and the Intelligence Departments, has been studying and reviewing the naval and military position of the country, with all the information and memoranda that no other bodies can possibly command.

The Defence Committee, it must be remembered, was formed in pursuance of the theory that the man responsible for the military and naval policy of the Government is the Premier, and he only. The Defence Committee, with a permanent secretariat, presided over by one of the ablest strategists and administrators we have, assists the Premier in this duty, and this Defence Committee has before it all the information on every naval and military subject that the general staffs of the two Services can produce, suitably condensed for consideration from a broad point of view.

The conclusions, therefore, that the Premier and the Defence Committee have come to on the subject in question are born of information that hardly any private and single individual can possibly command. It may be safely said that the country may accept as final, at any rate for a space of years, the deliberate conclusions they adopt. It may always be possible to controvert their conclusions in a dozen different aspects, but not when taken in connection with all



the conflicting conditions of modern inventions, geographical positions, and strategical needs. This is an important point, for unless we accept Mr. Balfour's statement as final, we still have no standard to work to.

*Mr. Balfour's Statement.*

The gist of the statement made by Mr. Balfour, after the mature deliberations of the Defence Committee and the General Staffs, is briefly as follows:—

1. That an *invasion of England*, save by a small force of the nature of a raid, is an *impossibility under modern conditions*. The fact that this is largely based on, is that a force of 70,000 men is undoubtedly the lowest that could, with even the smallest hope of success, land in this country; that the shipping to carry this force, even if packed like herring barrels—and horses and guns won't pack very close—must be enormous. The transport of such a force must occupy a very wide front when landing troops, and since the five-fathom line lies some distance from the low-water mark, except in portions of our coast where the deep-water frontage is very narrow (such as off Margate), the ships must anchor some distance off shore, and it will take certainly two nights and two days as well to get this force on shore. This being so, it will be impossible to protect the trooper shipping against the coast-defence shoals of torpedo-boats and destroyers during the time necessary to disembark the force. This is the most important and controlling statement in considering this question of national training.

2. The ex-Premier further gave it as his opinion that the defence of India was the military problem of the Empire.

3. The fortified Colonial ports should not be more numerous than necessary for the needs of the fleet. Further garrison than this means dispersion of force and strategical weakness.

Now it will be remembered that when the Royal Commission, presided over by the Duke of Norfolk, asked the Defence Committee what was the strength and standard at which it was considered that the Auxiliary Forces should be maintained, they were told that the subject was still undergoing consideration, but that it might be taken that 100,000 Militia and 200,000 Volunteers would be required. It is very evident that at this time the enquiry referred to by the Defence Committee was only in its initial stages, and that the final and very different conclusions had not then taken shape.

It will be seen that in the matter of Home Defence, the status of these Branches of the Auxiliary Forces has been much modified. The Militia, the Yeomanry, and the Volunteers all exist primarily in the eyes of the law for Home Defence, and include a large Home Defence Field Army. By the decision of the Defence Committee it has been settled that this large Home Defence Army is no longer needed. The future of Auxiliary Forces, and the object of Compulsory Service therefore, has to be considered from a new standpoint. There is a secondary purpose, however, fulfilled at any rate by the Volunteers and Yeomanry, which has not been forgotten by organisers in the past, and that is, that these forces have, to some extent, kept alive the military spirit of the nation, and have, in the recent war, provided a proportion of trained men whose profession and family ties allowed them to volunteer for service in the field at the time of a national emergency. It was in furtherance of this idea



that the force of Yeomanry in the country was recast and nearly doubled after the war. Twenty-five thousand mounted soldiers could never be required for the defence of hedgebound England — as many cyclists would be far more useful — but with the possibilities of a Boer War before us, and no guarantee that such trouble may not occur again, or that we might not be involved in a war requiring a large expansion of mounted forces, it is evident that this large mounted force of Auxiliary troopers is training many lads to some knowledge of horse and rifle.

Presumably, the Defence Committee are engaged in studying the many corollaries that result from their decision, and in default of further definite pronouncement to guide us, it would seem that the purposes for which we require troops are briefly as follows, and it is in accordance with these that we must develop our plans for some form of compulsory training. We require troops then:—

1. For our foreign wars, first and foremost the defence of India, and its peace garrison and then for our Colonial garrisons.
2. Secondly, for the defence of our Home naval harbours, arsenals, and dockyards, against raid, as well as for our principal shipping ports.
3. Sufficient Home Defence Field Army to make any landing except in force a hopeless task. Sufficient, that is to say, to defeat any attempt, except by a force so large as to make its landing in safety outside the bounds of possibility.

The actual forces required for the above will be briefly discussed in the following paragraphs before proceeding to investigate needs for and means of compulsory training.

## 2. THE ACTUAL FORCES WE REQUIRE.

It has been recognised that the war that looms clearest before us is the struggle for Afghanistan with Russia, and its ultimate outcome, the defence of India. This alone involves the treatment of such a campaign in a spirit of thorough preparation. We shall require a large force in addition to that in India and the Indian Army. A force the equivalent, declares the Premier on Lord Kitchener's authority, of not less than eight divisions of all arms, something well over 100,000 men in addition to drafts. We have also to provide for the peaceful state of India during the war.

With our Indian Army, English and native, and these 100,000 men, we could not put into the field as big an army as Russia, with far inferior railway communication to that existing in Central Asia, has been able to put before Japan.

That is to say, we must be prepared to put every Regular unit we have into that particular Theatre of War. But we have world-wide garrisons which are, and must be, in peace time, held by Regulars. Here at once we see that we must be prepared to relieve all Regular garrisons in the Kingdom, to free them for the field. We must also be prepared to take over the Indian compulsory garrison with Auxiliaries, that is to say, the force of Europeans considered necessary for internal order. Before going further it is evident that we want data as to other possible wars.

*Possible Wars.*

It is very often forgotten that our Navy is essentially in the final stages of war but a defensive force. It cannot climb mountains or even cross plains. Capitals and vitals of nations do not as a rule lie on the coast. For our island existence, since we neither grow our own food, nor the raw materials in the manufacture of which our millions earn the wage to buy their foreign food, an all-powerful Navy is essential, but to other nations who feed themselves or draw their supplies by rail a navy is not a vital necessity. Our all-powerful Navy saved us from Napoleon, but it did not bring him to Elba. It was land forces which did that, and the raw red ulcer in Spain was not the least factor. Therefore, since a powerful navy is an essential to us, we have it, and we pay a king's ransom for it, and cannot afford to maintain a large army in peace time as well.

At the same time, if we are to end a war with any Continental Power, we shall probably have to use a land force to clinch matters, not by attempting to cope with the armies of the Continent, but by reducing the foreign possessions of our foe.

The following are wars that some day may come to pass, since we are a nation with two long land frontiers:—

1. The oft-discussed war with Russia.
2. The war with a Continental Power with which none of our accessible frontiers march.
3. A war with the United States of America.
4. A rising of the Dutch in South Africa.

Of these it is evident that one of the possible land operations, especially in the case of a European Power with foreign naval ports, would be an expedition to destroy one from which cruisers sallied to prey on shipping. This is the more probable nowadays, since modern conditions have made blockades more difficult than they were a century ago.

The whole of this points to the fact that our Army organisation must have some capacity for expansion without overwhelming cost of maintenance.

Now, it is incontrovertible that whatever system of service we have, the troops that furnish the foreign garrisons in peace must come from a voluntary army. There is, however, no reason why for war purposes compulsory service troops should not be employed. As has already been said, nothing in the world less than a Jena or a Sedan will make the nation accept any compulsory form of semi-Militia service. A Majuba or a Colenso but sends us a-mafficking or its opposite. Many excellent schemes have been put forward from time to time to give effect to a principle of compulsory Militia service combined with the training of lads at school, notably that outlined by Major-General Sir Edmund Barrow in the *National Review* for October, 1904. They all fail in this way, that while able, moderate and suitable, they are put out of court by the fact that the country will have none of them. The only thing to be done is to devise some scheme that will be acceptable under present conditions, and that will meet existing conditions.

There have been, it is calculated, some 18 millions sterling of private money spent on the development of the Volunteer Force alone, while the Militia, despite the difficulties connected with its modern

training, is deeply rooted in the county feeling of the country. It would seem that there is no alternative but to keep to some extent the forces of the country as they now are, after removing all the anomalies that directly hamper their efficiency.

We have a Regular Army of some 280,000 men, which is the very utmost that we can get recruits for. However much we improve the conditions of the soldier, the mass of men must come from the unskilled labourer class, or the man who has temporarily failed in civil life. No others can afford to join the Army at a period when, if they are to make their way in civil life, they must be learning their trade or profession. For a special war, however, we can always count on any number of men of all classes eager to serve. Unfortunately, they are many of them devoid of any training.

The Regular Army is roughly half abroad and half at home. If all the Regular troops, other than the Coast Defence Artillery, were available for the field, the Army thus formed would be a considerable one, even judged by European standards. Added to the Native Indian Army, and the European troops in that country relieved of their garrison duties, the army available to defend India in the East would be large enough for the purpose required, provided always that drafts were forthcoming for its maintenance at strength.

Now, it will probably never be possible to take European troops from India, supposing we were at war with another Power than Russia, but the rest of the army is a very powerful force, say 150,000 men, if it could be made available. With it any oversea expedition could be undertaken that we could possibly engage in, whether with a Continental ally or to occupy foreign oversea territory.

In the event of a war for the defence of Canada, the combination of this force with the Canadian Militia would be equal to the work in front of it, till more troops could be specially raised at home and in Canada, and in a war like this it would be necessary to raise special troops in large numbers. But to get troops to Canada we should need the command of the sea, so provided we have the machinery and the material to raise special troops we shall have time available. The United States, like ourselves, do not maintain a large Army, and Canada is endeavouring to put her Militia on a footing that will enable them to hold on till reinforced.

From the foregoing the following may be deduced:—

1. That our Regular Army is enough by voluntary enlistment, provided that it can all be made available in war time for service abroad and can be kept at strength.
2. That under special and not improbable circumstances we may have to improvise special troops, as we had to in the Boer War.
3. That we must be able to compel certain of the Auxiliary troops to serve abroad in relief of Regular garrisons, at a time of national emergency, or at the will of Government.
4. That we must be prepared to provide reinforcements to keep the Regular Army in the field up to strength, and to raise special corps of horse and foot, and possibly artillery.



*Expansion for War.*

If we are to accept that a large Army in war is a necessity for England—and many of the public grudge even the small one, and refuse to understand its needs—the question is: How are we best to expand?

Compulsory Militia nothing will induce the nation to accept. What, then, have we?

We have the Militia that at present attracts the class who have leisured months in the year, and who will serve partly for a wage. The Volunteers and Yeomanry provide the means for those patriotic people who will give some modicum of their time for the sake of their country.

It is obvious that if the Militia are legally bound to serve in foreign garrisons when wanted to free the Regular Army, which is not a very severe demand on this force, we have provided for expansion in some measure.

If the Yeomanry and Volunteers can be brought, as many believe they can, to a pitch sufficient to provide the bulk of the Home Defence Force, we have another element of expansion, in that we free all our Regular soldiers for war abroad.

If now we recognise that thousands will serve their country in war who cannot do so in peace, and provide machinery for their employment, then we have a very considerable degree of expansion.

The question is how to actually expand, and there seems no doubt after the experience of the last war that many men can and will come from the members of Volunteer and Yeomanry corps. The more men join the corps the more will men, who have some military training, be available in war time. These forces would seem to be the machinery that if properly exploited will give us the power of expansion in a war that requires more troops than our Regular Army can find.

We want a machinery that will allow of these corps throwing off a portion of their number that will either join the Regulars by squadrons and companies for the period of war, or who will join, in similar squadrons or companies, special corps that are being raised for the war. The grouping of Volunteer and Yeomanry corps into groups that between them may be expected to afford sufficient Volunteers to furnish a corps to take the field abroad, should be a special feature in our preparations. The net of these Volunteer forces should be a wide one, and they should contain on their books such efficient members as, while abandoning active volunteering, shall be likely to come forward to serve in a war.

If, however, the nation is to escape from its military liabilities by the help of its existing voluntary systems, which it has been shown do in principle meet to some extent our national needs, then these systems must receive *far healthier support* than they do now.

The question then for us to decide is: How can we encourage and develop the right military spirit, as distinct from the swashbuckling form, in the nation at large, so as to induce the class that can suitably take Army service to do so in sufficient numbers, and those that prefer to pay others to do their work for them, to perform their share in the Auxiliary forces.

There are many institutions in the country that try, often with heartbreaking disappointment, to bring folk to a right view of their

duties, but they cannot reach the mass, and there can be only one rational way that will give us some definite results, short of compulsory Militia service, and that is the compulsory training in drill and the use of the rifle by lads at school, in amplification of the physical training that the Board of Education has introduced in late years. *Pari passu* with such training the education of the minds of children in some of the glories of the past and the dangers of the future, with the need for a knowledge of arms, must be given.

It is no use asking for more, when it is certain that the nation won't listen; but if the country refuses the easy task of preparing more fully its voluntary power of expansion, and of stiffening its national character and physique, we must drift on till our Jena or our Austerlitz brings us through the fire, a wiser and a weaker people.

The scheme proposed will be elaborated in Part II. of this essay. One grain of truth may here with profit be absorbed.

In the first nine months of 1904, 71,698 recruits were medically examined for the Army, and 24,658 were rejected as medically unfit, over and above a portion manifestly unfit, whom the recruiters would have refused to proceed further with. It is not to be imagined that these rejections came all from the wastrel youth of the large cities. Whence this national feebleness, the recurring tale now of many years?

### 3. THE ROLE OF THE REGULAR ARMY.

Under the conditions laid down by the Defence Committee, the Regular Army will have little to do with the question of home defence. Whether it be stationed in peace time at home or abroad, its duties will seem to be as follows:—

1. To find the foreign garrisons in peace and to be available in war to take the field, with certain exceptions. For this purpose it will be relieved by Auxiliary and Colonial troops, on war threatening, from most of its garrison duties, and those Regular troops furnishing the peace time garrisons will be embodied in certain brigades and divisions with their mobilisation stores ready.
2. To find a small nucleus of troops of all arms for the Home Defence Army, which, as embodied Auxiliary troops become more fully efficient, would be available to reinforce the Army in the field.
3. To furnish the bulk or at any rate the nucleus of the coast-defence artillery, both at home and in foreign garrisons, and also to provide a considerable proportion of the field artillery for the Home Defence Field Army.

It does not follow that all the Regular Army will be stationed abroad. The main force of an expeditionary army to any part of the world, except the Far East, would come from home, where, as now, much of the Army will be. It will, however, be earmarked for foreign service, and little for home defence. The terms of service, of the men forming the Regular units of the Army stationed at home and the Army serving abroad, may or may not be the same. They lie outside the scope of this essay

*The Provision of Recruits.*

Once it becomes impossible to maintain our Regular Army by voluntary recruiting, we must revolutionise all our methods; but such a change will be so drastic that every effort will be made to secure recruits. We get 70,000 men a year at present, of whom 24,000 are unfit. If we could breed fit lads instead of weaklings we should have a large margin. We have not yet exhausted the attractions to be offered by State employment for ex-soldiers, while it is believed that the scheme unfolded in Part II. may do much to popularise service in the Regular Army for those to whom it is suited.

## 4. THE DUTIES OF THE AUXILIARY TROOPS.

Assuming that the foregoing deductions are the correct ones, the duties of the Auxiliary Forces seem to be clearly defined as follows:—

*The Militia.*

1. To understudy the Regular Army in every way, and to be liable by law to be sent to relieve the garrisons of Regulars whenever the King in Council may order it.
2. To be available, if it volunteer, to serve in the field itself, or possibly to be legally liable to this also.
3. To throw off companies of Volunteers under Militia officers to join their territorial Line battalions in the field.
4. To find much of the artillery for coast defence.

*The Yeomanry and Volunteers.*

To find the Army for the garrisons for all home defence, such as the coast fortresses, and also to furnish the bulk of the Home Defence Field Army. This latter, however, under the new ideas will be far smaller than formerly. This Field Army will probably have a small Regular nucleus.

5. To keep alive the military spirit of the nation, and with this view their numbers should not be whittled down to dovetail with any special scheme, but every man be encouraged to join, and the establishment be fixed so high that it be never reached. Those corps detailed for the field Army and the fortress garrisons to be better equipped, and to have a larger permanent establishment, to enable them to take the field at once at a certain strength.
6. To provide the machinery for expansion in war, viz., to be prepared to throw off in common with the Militia, as they did in South Africa, service companies and squadrons to join cavalry and infantry regiments of the Line in the field.
7. And again, should events demand it, to be prepared to throw off whole regiments of Volunteer infantry and Yeomanry from Volunteer brigades and Yeomanry groups; to become, in fact, the machine from which



men who do not enlist for the Army or the Militia can join for the period of the war, to proceed to the field. It is not possible to get men to register themselves for any service in case of war, for the status of a civilian may vary at any time from his profession or from matrimony, so that any such burden would be intolerable. We must depend, as we undoubtedly can, for numbers on the portion of the people free to obey the dictate of patriotism, and join the Army for a war.

It may, however, some day be necessary for us, as it was for both North and South, to pass a law compelling all men between certain ages, or as many of them as required, to join the forces in time of war. For this the ever present, though somewhat rusty, machinery of the ballot exists; but there is no reason to suppose that the nation in its trouble will not insist on exacting a fuller service from its manhood than the ballot for the Militia demands.

### 5. THE RÔLE OF THE NATION.

The foregoing generalities have brought us to the point where "the nation comes in." It has been shown how the defence of England on her own shores is not to be greatly apprehended, but that we may in any war want more troops than we can afford to maintain in peace.

The nation, with its voluntary forces, virtually compels the starving to serve in place of those who pay them. This is what our voluntary system for the Regular Army amounts to in great part, and must always amount to.

As it cannot compel enough men, or afford to pay them if it could get them, it has to some extent taken the duties on itself in the Volunteer and Yeomanry Forces. We now find that these forces are not required for home defence in anything like the numbers we had imagined; but with the example of the late wars before us, the possibilities of modern wars brought home to us, we find that we may have to improvise forces at any time. We are so situated, fortunately, that so long as our Navy is kept up to the mark, we shall have time to evolve these forces.

We have, however, before us (though not publicly, for the Press and self-esteem burke facts deliberately) that a large proportion of the hastily-raised troops during the late war were a positive reinforcement to the enemy, so easily did they fall a prey to their hands, with all their new accoutrements. The best improvised material was that which came to us with some slight military training and some notion of the rifle; naturally the men who had served or were serving in the Auxiliary Forces, notably the Volunteers and Yeomanry.

It is evident that in raising troops in a future emergency we either want to get drafts from the Auxiliaries to join the Regulars or to form special units, and we want every man who comes forward to have had some training. We want the Volunteers and Yeomanry to train as many Englishmen as possible to some knowledge of arms, and as many men as possible to be trained by these forces. But the less of their scanty time that Yeomen and Volunteers have to spend on elementary drill and rifle shooting, the more time can be devoted to the higher military training. As this training must always be a

difficulty with civilian soldiers, it is eminently to be desired that all men before they join the Auxiliary Forces should be trained to some knowledge of arms. Further, since all men are not able to join the Yeomanry or Volunteers, but yet may be able to serve for a war, it is obviously desirable that they too should have a military training.

The whole nation should have therefore a training in early age, and the main question is, how can this be done? remembering always that the nation will not stand anything in the way of a compulsory Militia, and the highest we can hope is that every man who can shall join the Auxiliaries, and not feel himself a man till he has done so, and that every lad shall pass a standard in military training as he now passes in ordinary knowledge.

### *The Civil Gain from a Military Training.*

The advantages that the training in Continental Armies confers on their nations is now being very seriously recognised by organisers of labour abroad and at home. The distinct advantages in the way of manufactures that Germany is daily gaining over us is attributed by many business men to the habits of discipline, punctuality and self-restraint that Army training involves. This in our country is nullified to a great extent, happily far less so than in the past, by the fact that the English ex-soldier loves to get drunk, as does his civilian contemporary, and therefore the reliability that his training tends to give him is heavily discounted. The value of the sober ex-soldier and ex-sailor is amply testified to by the demand for commissionaires and other men of unimpeachable character for places of trust.

Every tradesman who employs errand boys, and every employer of labour deplures the spirit of unnecessary independence in the youth of to-day which rebels against discipline in any form (and the discipline of the employé must always be strict). Errand boys won't run errands punctually, labourers will laze from Friday to Tuesday, self-restraint and application are noticeable by their absence. The same cry is heard from the clergy as from employers and tradesmen. This desire to be freed from all personal restraint is doubtless the first effect of a generation of universal education on unprepared soil, doubtless also in the gradual process of evolution it will give way to something better; but as the case now stands it is no common thing to hear the clergy, despite their dislike of militarism and all they understand (or misunderstand) by the word, say that universal military service with the discipline it entails is the only visible panacea.

The distinct result of this feeling is the introduction and rapid increase of the Church Lads' Brigade and kindred institutions that are doing wonders for the country in an unobtrusive way. For every lad who submits himself to this beneficial form of restraint and physical development, there will be twenty that do not.

The need of the nation, morally and physically, as well as from a military point of view, is for all lads of all ranks to undergo a process of discipline that will combine the submission of will with the training of arms. The further good to be anticipated is that with every lad initiated to military methods in some minor degree, the spirit that will send all men to the Auxiliary Forces for a time will also develop.

In this matter of encouraging the military spirit of the nation, of directing public opinion into right lines, and of arousing the deadening apathy that surrounds shopkeeping England, there are many public bodies engaged, notably the National Defence League, the Army League, the Auxiliary Forces themselves, and those schoolmasters who are officers in, or who support and encourage, School Cadet Corps; but it is high time that those that won't bear the national burden should not be allowed to shunt their responsibilities on those that will.

The principles and methods which it is considered the nation may be prepared to consent to, and which will insert a lever to move the inertia of the nation in military thought, are detailed in the following Part II. of this essay.

The term Regular or Auxiliary Forces, as used in this essay, seems to indicate the military as distinct from the naval forces, though, used in their broad sense, they imply naval as well. Reference, therefore, to naval service is made in the ensuing Part II.

### *Rifle Clubs.*

It has been urged that it is the duty of every citizen to fit himself for his country's service, and as all cannot join existing forces, a strong movement, started by Sir A. Conan Doyle and others, and re-stirred in 1905 by Lord Roberts, has taken up the formation of Citizen Rifle Clubs. Their object and advantages are obvious, and will be treated of in Part III.

Before entering upon this portion of the essay a *résumé* of the conclusions arrived at and axioms adopted, which are scattered through Part I., will, at the risk of some repetition, be useful.

## 6. RÉSUMÉ OF THE CONCLUSIONS IN PART I.

The subject of this essay demands the best method of securing the able-bodied youth of this country for service in the Regular or Auxiliary Forces as existing, and for expanding those forces in time of war.

The following is a *résumé* of the conclusions arrived at in the foregoing pages:—

1. That while a more homogeneous system might be more satisfactory, the existing varieties of forces are the only ones that the nation will submit to.
2. That these meet in a fair way, if they be put on a sound footing, the requirements of the nation, provided:—
3. That the Regular Forces can all, or almost all, be freed for war, by being replaced in all foreign garrisons by the Militia.
4. That the Yeomanry and Volunteers have a threefold purpose—
  - a. To provide for home defence.
  - b. To train the men of the country to arms and preserve the military spirit.



- c. To furnish reinforcing drafts to the Regular Forces in the field, of patriotic men who will serve for the period of the war, and to provide and organise special corps that may be necessary to raise during a war, for the period of its duration only.
5. That the forces as they now exist furnish a very light burden on the country, and that to avoid further increase of this burden, steps must be taken to ensure that all men in England have a rudimentary military training to enable Auxiliary corps to waste less time over preliminaries, and that ordinary men who do not join the Auxiliaries may have some foundation training, so that when volunteering for the service of their country in time of stress they may not be useless.
6. That the nation may fairly insist on a military education being given to its children in the same way as ordinary learning.
7. That the advantages and desirability of Rifle Clubs are obvious.

## PART II.

### THE COMPULSORY TRAINING OF LADS AT SCHOOL.

The following scheme, it should be remembered, is based on two assumptions, drawn largely from the argument in Part I., *firstly*, that for the safety and service of the nation, the instilling of a patriotic spirit of an elementary military training and habits of order is a necessity yearly growing more apparent; and, *secondly*, that the nation will not accept anything involving compulsory service in a National Militia. There is the hope that it can be brought to approve of some such scheme as unfolded, the more so when we consider that the laws it would be necessary to pass would not affect any of the existing adults.

There are a great many difficulties that lie in the way of any scheme of school training. There is a large class who have a horror of "militarism," though quite what they understand by the term it is hard to say. There is also a horror of soldiers and Regular officers because, though perhaps very erroneously, they are credited with very hard and fast Martinet ideas; and with a great want of sympathy for the needs and difficulties of citizen soldiers. Fortunately the clergy are very largely in favour of discipline to counteract the lawless and independent spirit of the age. They have given great proof of this in their hearty support of the lads' brigade movement, over which the junior clergy spend hours of their scanty leisure and often much of their slender stipend. The part of military training they endeavour to instil is obedience to superiors and the cleanly life.

On the other hand, they have rather a horror of much they see in the Volunteer movement. The reason of this is not far to seek. To attract Volunteers it has been found necessary to make camping work something of a *beano*—not too much work with plenty of sing-songs, a town near with complacent female society, and not too

great an observance of sobriety. Knowing that in certain corps this sort of thing is apt to prevail, after the manner of mankind, they think that it is universal. The only corrective to this evil is to guide the spirit that leads men to volunteer to have more patriotism in it, and to ensure that the trainings in camp shall always be interesting and attractive, which under good management is quite possible. General Sir Ian Hamilton's evidence before the Norfolk Commission was to the effect that Regular officers serving with Volunteers must be, but often are not, of the very best we have.

These details are entered into to show where, in enlisting the help of the clergy and the school teacher, difficulties and objections will be met with.

The whole policy advocated in this essay is to make the Volunteer force the ultimate mainstay of the nation, stiffened by the training of the youth at school; and it is a matter of concern that the clergy should have an objection to the force that is not without some amount of reason. The tendency of youth to wine and women is undoubtedly enhanced where there are soldiers, partly because of the admiration of the fair sex for the *devil-me-care* attributes with which they credit even the civilian soldier. Bacon says in his Essay on Love: "I know not how, but martial men are given to love. I think it is but as they are given to wine, for perils commonly ask to be paid in pleasures." This spirit, then, that from time immemorial has been connected with the soldier always militates in men's minds against military service in any form, but in reality it is largely born of the spirits of youth, and no religious teaching that we have yet seen in the world can do more than restrain it.

The more good feeling and discipline is inculcated in youth, the less will Volunteering present the evils which the clergy deplore, and perhaps exaggerate. At any rate, we want and we must strive to obtain their full support in the scheme we are considering.

The whole principle of a satisfactory system of school training would appear to be, that it should lay in the hands of the teachers and educational authorities, and not in the hands of military men, save in a remote degree. In Germany the influence of the teachers has a very great effect in framing the patriotic spirit of the nation, and we should look to the same end in England.

### *The Existing Military Training for Lads.*

Largely owing to private patriotic initiative, and lately to the attitude of the Education Board in introducing physical training and drill, and the action of Lord Roberts, Lord Methuen, and other public and patriotic men, we have made some start in this matter. For years we have had in the upper class schools Cadet Corps of varying popularity. The late war, with its results, and the awakening of the school authorities to the needs of the country, have much increased the School Corps. At the public school field-day in 1904 Repton sent fifty per cent. of its boys into the field as efficient Volunteers, which meant that almost every boy of suitable age was serving. For years there have been Cadet Corps attached to certain of the well-known Volunteer Corps.

The country is studded with such bodies as the Church Lads' Brigade, Lord Meath's Lads' Drill Association, etc. That is to

say, private effort is doing what the nation should undertake. The influence of these bodies referred to should have largely served as the pioneer of more comprehensive measures.

It is well to remember that all young men in the training colleges for schoolmasters are compelled to serve for two years in the local Volunteer Corps, the larger colleges having their own companies. St. Mark's College was prominent in this movement, when, so early as 1867, Canon Cromwell, the Principal, took the lead in starting it. That is to say, that all schoolmasters in provided and non-provided schools who have had a college training have been efficient Volunteers. That many of them fail to keep it up is probably due to preventible causes, which will disappear as it becomes the fashion for men of their cloth to be patriotic leaders.

## 2. THE PROPOSED SYSTEM.

The schools of the country may be classified for our purposes into two broad divisions—those that retain boys till they enter one of the professions, and those that release them as soon as they have attained the minimum education required by law.

The schools or other educational establishments that come under the first category can train all their boys exactly as the members of the Volunteer Cadet Corps are trained. If it were law that every lad had to have a certain military training, all schools that had sufficient numbers would have their own Cadet Corps, and those that had not could without difficulty join local Cadet Corps.

The difficulty of any system comes in with the classes who require a much shorter education and whose boys leave school at the time when their more valuable military training would be beginning. Children by law leave school at fourteen years of age, and can be "half-timers" at twelve, provided they have attained a certain standard of education. The difficulty must come in retaining a hold on the boys who leave at fourteen. It is suggested that the Board of Education, the supreme educational authority in England, should undertake the enforcement of compulsory military training as outlined below, in school companies, known as the "National Cadet Service" or some such name.

### *Public Elementary Schools.*

The regulations regarding the compulsory training of lads must vary considerably for the two broad natures of schools referred to above. The principle of compulsory training will be universal; the conditions of its application must vary. Dealing first with the case of boys in the ordinary provided or non-provided schools, the following rules would hold:—

Every school in the above category would have its company or companies, according to its numbers, of the "National Cadet Service," the companies being known by the name of the school. Each company would be commanded and officered by masters of the school (*vide* objections below), who would receive special salary, be given a suitable uniform, and a commission in that force carrying the right to be present at public ceremonies, etc.



Up to the age of thirteen<sup>1</sup> every boy would receive physical training in the infant portion of these companies, on the same lines as now laid down by the Board of Education. At the age of thirteen—a year before the boys, as a rule, leave school, either as whole or half-timers—they would join the Cadet Company proper, in which they would be required to attend a certain number of drills annually, and to fire a certain course on a miniature rifle range.

The lads would belong to this company, with facilities for transfer to the Cadet Company of whatever school district they may move to, till a certain age, seventeen or eighteen, and would have to attend on certain days for drill and shooting. That is to say, the half-time principle which obtains for education under certain conditions between twelve and fourteen is extended to the higher age, so far as exacting this attendance for military training. Every lad becomes, not a half-timer, but a tenth or fifteenth-timer, till the age when he is free. By transferring a boy to this company at thirteen years—a year before he leaves the school—the spirit of the school and the influence of the teacher in the Cadet Corps is to some extent secured.

The points to be settled and the objections to be met would be much as follows. It must first be pointed out that the various details resulting from the acceptance of such a scheme cannot possibly be worked out in an essay like the present. Far more knowledge of the details of school life and the possibilities of each district than a soldier writer possesses are evidently required. Once the conditions on their broad lines have been accepted, the working can be gone into and the details arranged with regard to all the conflicting interests that have to be met. The working rules might obviously have to be modified to suit the mode of life in different districts.

It is always urged against a scheme of this kind that arrangements must be made with employers of labour. This is absurd. If it is the law that lads up to eighteen have to attend a certain number of drills, the employer will have no option. He may be inclined to pay a lower wage till a lad is free; but that is a different matter.

### *The Staff.*

First to be considered is the question of the staff. All teachers may not be able to qualify for the command or otherwise of their Cadet Companies; but bearing in mind that many when training are Volunteers, it will only be necessary to give them facilities to become fit for them to obtain the qualification. The labourer is worthy of his hire, and the extra salary to be given would induce men to become qualified. It will not always be possible for the teacher to command the company, and an outside man might have to be introduced, preferably an officer of local Volunteers. The position of an officer in the "National Cadet Service" must be made one of honour.

The inspection of companies would have to be provided for, and it is suggested that the inspector should be a retired Army officer, or an officer of Volunteers, who, appointed by the Board of Education, should be responsible for reporting on the efficiency of the companies,

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<sup>1</sup> Some authorities consider that boys of 12 can begin military training. This detail should be given further consideration.

each inspector having all schools in a certain district. The Director of Auxiliary Forces should also have the right of inspecting the cadets and bringing failings to the notice of the Board of Education.

The appointments of these inspecting officers should be in the hands of the Board of Education, subject to the Director of Auxiliary Forces being consulted as to the suitability of the selections. A very high standard of military knowledge would not be so valuable a qualification as a man of zeal and tact.

There would have to be a paid non-commissioned officer to each company to assist in drill and training under the company commander, whom the local educational authority would appoint, subject to the approval of the local military authority as to the candidate's qualifications. It need not follow that this man should be a man of the Regular Army. The local educational authority would also nominate the officers from the teacher staff with the final approval of the Board of Education, on whose recommendation these officers would receive their commission in the National Cadet Service.

#### *The Cost of the Cadet Service.*

The most important point is: Who shall pay the cost of this organisation? At first sight it would seem that while Government should provide ranges and drill accommodation from Imperial funds, the actual expenses of salaries should come from the education rates. The objection to this, however, is that rates are already so high, and only fall on householders, that they should not be further burdened. It would seem, therefore, best that the money should come from Imperial revenue in the form of a grant.

The principal charges to be met would be:—

- a. Payment of cadet officers: Perhaps fifty pounds a year to company commanders and thirty to company officers with the pay of a sergeant for each company, who would keep the attendance rolls and issue notices to attend.
- b. The cost of drill halls: With the fine buildings in the schools and their grounds, and arrangement with local Volunteer authorities, this item in many places would be *nil*.
- c. The cost of a certain amount of time in camp each year, and in the summer the move by train to open country.
- d. The provision of miniature rifle ranges (see paragraph ahead on Rifle Clubs).
- e. The provision of such uniform and equipment as may be considered necessary, probably light rifles of the pea-rifle type for cadets under sixteen and carbines for lads over sixteen, or else according to physique, while for uniform a forage cap, with distinctive badge, and water-bottles and haversacks would be all that would be required.
- f. Uniforms for the company officers and sergeant-instructor.

It is obvious that the yearly cost of the above scheme would not be very excessive; perhaps two hundred pounds a year per company, exclusive of inspecting staff, and each company might very well be a hundred and fifty strong.

The provision of rifle ranges would be mixed up with the question of Rifle Clubs, which will be discussed later.

### *Other Schools.*

We now come to the other class of school, those to which the gentry and well-to-do classes send their children, and in which boys do not leave till they are from 17 to 18 years of age. For them it is proposed that every boy must either join the National Cadet Service Company of the district to which he belongs, or else a Volunteer Cadet Corps. The inspecting officer of National Service Cadet Corps already referred to would be responsible for seeing that the military education of boys at such schools was provided for.\* In schools that have Cadet Corps there would be no difficulty, while boys of those whose numbers will not allow of their starting a corps of their own will have to join the local Volunteer Cadet Corps. The authorities will have to provide for the formation of Cadet Corps and companies of ordinary Volunteer Corps in those places where there may be none.

The law that ensures that every boy in the country gets the legal minimum of education, and that therefore ascertains that those who do not send their children to the public elementary schools are taking steps for their education, can equally well ensure that each boy is doing his military course as well. We should have to have an elastic code to govern the cases of those who wish to educate their children abroad or move them from one part of the country to another. These are all matters of detail, easy of settlement, if the general principle be admitted. The whole matter is emphatically a case of where there is a will there is a way.

For the favourable views of headmasters of schools on Cadet Corps, see a lecture at the R.U.S.I., published in the JOURNAL for February, 1901 (No. 276), by Rev. C. G. Gull, M.A., Captain-Commandant, 4th London Rifle Volunteer Corps, and headmaster of the Grocers' Company's School.

No attempt has been made to enter further into details, because it is obvious that a writer of an essay in the space of a few months, cannot cover the ground which a dozen select and other committees will have to go over, with all the facilities of calling evidence and expert assistance. It is only possible to enter on broad principles and show that the difficulties will not be insuperable. In the writer's eyes nothing is possible at present that is not done with the hearty assistance of the Education Board and their County Councils and the educational authorities that they constitute.

### *Criticisms.*

It may very well be urged by soldiers and by an enthusiastic body, such as the Council of the National Service League, that the measure of training obtained by these proposals will be trivial, and that discipline will be *nil*. The answer to this is, that the country will certainly accept only very trivial liabilities, and that a scheme such as outlined will give very great results in places where personal influence and zeal are brought to bear, and on more barren soil will give of course less, as in every other matter of life. It will lend itself to considerable



development, if needed, as popular opinion gets used to the principle. For instance, if the influence and control of the teacher officers fail or further efficiency and training are desired, it will be a less step to transfer lads at sixteen to companies on similar lines, that have a larger and powerful military staff, than it will be to inaugurate even the mild form of training herein advocated. The novelty of to-day is the common-place of to-morrow, and once men have got used to the proposed idea of compulsory training, its improvement would not involve a new departure. It would, of course, be necessary for the Board of Education to start a small Military Department under some soldier of not too high rank, to assist them in carrying out the scheme, but it will be advisable to obviate the War Department having aught to do with the training. It should content them if they find that lads coming to the Army, or joining the Auxiliary Forces, or available for special corps in time of war, come with some idea of military service and some slight education in the military history of the nation and the sacrifices in the past that individuals have made of self for the sake of country. A headmaster of a public elementary school, who has given the writer the benefit of his views on the subject, urges strongly that the history of the nation, devoid of the criticisms of historians, and the controversies of survivors, should be regularly taught in schools, with the attractive side of gallant deeds for a cause specially dwelt on. His views must be agreeable to all who wish for the development of the national spirit in the youth of England.

To those who urge that the foregoing outline is inadequate and trivial, the proposals of the National Service League and Major-General Sir Edmund Barrow, already referred to, are recommended for consideration. The moderation, the excellence and the wisdom of the principles in the former and the details in the latter will be accepted by all who have given the subject a thought, but who is there that believes that the country, till somebody frightens it again, will ever consent to such proposals? The scheme put forward here endeavours to carry the great power in the country—the Educational authorities—with it, and enlist their sympathy and that of the clergy, for, if it be possible to awake everyone in England to a sense of duty, our voluntary forces will give us all that we can possibly require. The inculcation of a well-directed military spirit at school must act for the good, too, of the Regular Forces and the Militia, by sending boys to their ranks. The proposals of Sir Edmund Barrow, and the programme of the National Service League, whose functions and good labours will only be beginning if the proposed scheme came into being, are given in brief, so that we may reflect if the country is prepared to give, or any ministry to put forward, even so moderate a scheme as these.

### *The Proposals of the National League.*

The National Service League has for several years now, under the presidency of the Duke of Wellington, been endeavouring to instil into the nation, by means of influential and widespread local organisation and sub-committees, the dangers of our present conditions, and the need for every man to serve his country. At one time, when the influence of the South African War was strong, their platform included a National Army, in which every man should serve for a period. This far-reaching programme has now been modified for the

following proposal, which the League now puts before the public as a minimum:—

- I. That physical training in schools should be compulsory up to the time of liability for military training.
- II. That every sound man of military age be liable to training in a National Militia, resembling that of Switzerland, naval as well as military in character.

*Sir Edmund Barrow's Scheme.*

Major Sir Edmund Barrow's scheme (*vide* the October, 1904, number of the *National Review*) outlines a scheme of very mild National Service from a compulsory cadet service of some stringency.

Its provisions are as follows:—

The establishment of an Imperial Militia, recruited by voluntary enlistment, liable to foreign service, and, in addition to existing forces, with a regular staff of permanent army officers.

The subdivision of the country into battalion districts, to which each battalion of Imperial Militia would belong. The compulsory training of lads at school till they were 17, when they would come into cadet companies distributed through the battalion districts, and be trained under certain conditions for two years by the permanent officers and staff of the Imperial Militia Battalion. This training would consist of classes and trainings given locally for the winter months, and a month's training in camp in the summer. On reaching the age of 19, the lad would have to accept military service in some form, the lowest he could choose being the reserve of the County Militia as that force now exists. Such reservists would have no pay, and undergo no annual training, but would undertake the liability to be called to the colours of that force for Home Defence.

The essence of the scheme is the formation of the Imperial Militia as a force available for service abroad when required, with a staff of Regular officers available, to train lads for the eleven months of the year that the Imperial Militia was not out for training.

Sir Edmund's scheme is worked out thoroughly, and, as an ideal scheme to suit our needs, to be carried out with a blank cheque on the feelings of the country is admirable, but demands more from the individual than the country will dream of giving, and takes more of a lad's time than the nation will at present allow. It does not provide for the thousands of boys who leave the public elementary schools at 14, and are thus free of all training between the impressionable years of 14 and 17.

### PART III.

#### VARIOUS COGNATE MATTERS.

##### 1. *Rifle Clubs.*

When Lord Roberts this year endeavoured to rekindle the public interest in the matter of Rifle Clubs, the *Standard* raised the question of why Rifle Clubs have failed? and many interesting replies were received. The ephemeral interest in this matter, which stirred our careless nation after the humiliations of the last war, has fast died out among the mass. Patriotic men started these clubs with funds

and ranges, and from that day to this the attendance and number of members of these clubs have dwindled yearly.

The reason is simple enough. Rifle shooting is not amusing, and much time and some trouble have to be spent in it. The story is the old one, men will not learn to shoot for duty's sake alone.

In the same way that Volunteers must be attracted to the ranks so must Rifle Club members be amused. They even demand prizes as incentives.

There are various minor troubles. Ammunition is dear. Government, it is alleged, charge considerably more for ammunition than private firms, instead of less. Real ranges are hard to come by and expensive to reach. Miniature ranges are lit artificially and are dreary and trying to the eyes.

Some clubs, owing to the fact that men who would otherwise join the Volunteers content themselves with joining the Rifle Clubs, therefore, bar all members between 17 and 35, unless they are also Volunteers.

Lord Roberts has appealed to the nation for funds to build miniature ranges. Many men have urged that every Englishman, for a period of his life, shall yearly attain a certain proficiency.

As we stand at present, it seems that the only way is to trust to time and precept to make men study rifle shooting as the first claim to be called a man, and an Englishman. We must, therefore, try to make it popular, as well as urge it for duty's sake. The Honorary Secretary of the Highgate Rifle and Sports Clubs has brought a valuable point to notice; he draws attention to the fact that at every seaside place, frequented by holiday folk, and every open-air place of amusement, shooting galleries innumerable flourish, and are most popular features, in which variety of target is the usual attraction. According to him, a miniature range proprietor he knew of in North London, had taken half a million pennies at a penny a shot in six months, so that it is clear that rifle shooting in some form is a popular amusement with a considerable section of the population.

It would further appear that as far as towns are concerned, the miniature rifle ranges used by the clubs should be in the parks and open spaces, so that men can shoot in the finer months in the open or partly so, and their women-kind look on after the fashion of the "Wappenschaw," while where mounds, excavations and other back ground is available, the targets should be of an interesting and varied nature to develop the snapshooting taste and faculty.

### *The Rifle Ranges for the National Service Cadets.*

The National Service Cadets will require rifle ranges, and it would be desirable that these should be constructed so that they may be available for use of Rifle Clubs, while the Cadets in the final stages of their training would go to the nearest military or Volunteer ranges for a short course. It will assist both the cause of Rifle Clubs and that of the Cadets if the same ranges serve for both.

It is very much to be questioned if it is as yet feasible to insist on citizens joining a Rifle Club. That may very well come when the National Service Cadet system has prepared the public mind, but it is hoped that the spirit that this service will instil, will cause many to keep up their rifle shooting voluntarily in a way nothing else short of compulsion will do.



It must be remembered that the aim of Rifle Clubs is not, as some erroneously urge, to furnish hedge riflemen to die in the last ditch in Merrie England's time of trial, but to ensure that the civilians, flocking to the wars as they flocked in the days when the war in Africa was fashionable, shall come to the ranks with a slight acquaintance with a military rifle. That this is very desirable would appear to any one who had seen, as the writer saw, an Irregular soldier a month in the ranks engaged in a fight with the brethren, in South Africa, hastily reload his empty magazine by stuffing cartridges into the oilrag recess in the butt of his rifle, whereat the writer cuffed the trooper's head.

## 2. *The Matter of the Navy.*

The proposals which have been put forward deal with so little more than instilling elementary ideas of discipline and training in the youth of England, that no reference specially to the Navy has been made. The recruiting of the Navy is such a very different matter from that of improvised armed land forces, that its supply is hardly affected by the training in schools. The Naval Reserve, that the fisher and longshore folk serve in, will be none the worse for the discipline that its members will have learnt when serving in the Cadet Corps. It should be a matter for consideration by committees that must work out the cadet scheme, whether or no certain schools, notably those in the coast and seaport towns, should not be run on a naval rather than a military basis, while there is no doubt that sailor petty officers and ex-coastguard men make excellent instructors for lads with a great power of inspiring discipline, and might even be employed with advantage in companies organised on a military basis.

## 3. *The Number of Wastrels in England.*

Earlier in this paper reference was made to the number of rejections of would-be recruits in the last year, viz., 24,658 rejections out of 71,698 candidates for enlistment, between 1st January and 30th September, 1904, or 34·39 per cent. This is no new thing, for between 1893 and 1902, out of 679,703 candidates, 234,915 were rejected, or 34·6 per cent. There are now many officers of experience who say that the test is not severe enough, and this is borne out by the number of draggled invalids that stream to the rear from the day a campaign opens, while in the period above referred to, besides the actual rejections, 5,489 men were discharged as unfit within three months of enlistment, and 14,529 were discharged as invalids within two years.

In addition, every recruiter is bound to refuse to bring a good many applicants before the doctor, as manifestly unfit for the service.

Now the fact that the country has moved to the towns, and the children of thousands are bred and brought up in conditions that absolutely prohibit healthy development, means that the nation must take up this matter quite apart from any idea of compulsory training. How are children to work at school when starved is a very crying question in the poor districts of great towns.

How is the unemployed man, the wastrel, whose only faculties seem to be those of procreation, the countryman, who, in the town, can but get the sweat wages of the poorest class of unskilled or casual

labour, to make his children fit citizens of a free country? The thing is such an impossibility that only by wilfully putting the question from him can the well-fed Englishman allow the present state of things for a moment. The State feeding of many classes of children is the means which even already we have had to undertake to a small extent, and will have to carry out far more widely. It will also be a matter for direct consideration in connection with the National Cadet Service scheme. It is ill-drilling in either military or physical exercises a more than hungry lad.

The difficulties in connection with this subject are considerable, as the public naturally fear to relieve lazy and irresponsible people from a burden that nature has intended for them. But the matter is so vital that a means must be found.

In this connection it is a profitable reflection that the hundreds of millions of good English gold that the war in South Africa cost us would have provided fifty times over for some of those wide-reaching philanthropical schemes of national importance that are always shelved by reason of their expense, viz., the rescue of slum children, the pension of the aged, and many more. The point is, not that the war was unnecessary, but that millions for a national service are not so hard to come by if the nation's heart be willing.

Why should wealthy England permit a wastrel to be bred within her boundaries?

#### 4. EXISTING INSTITUTIONS.

In carrying out the scheme of a National Cadet Service, it will be eminently desirable, as well as gracious, to recognise, if possible, the good services that the national pioneers of universal training have performed. The various existing cadet corps, both of the schools and of the districts, which have been attached to Volunteer Corps, will remain and be extended so that the good work they have done will stand and continue. It will be necessary to arrange that boys attending public elementary schools, who belong, or prefer to belong, to Volunteer Cadet Corps, shall be permitted to do so instead of serving in the School Company, provided they produce efficient certificates to show that their period of service in the Volunteer Corps will be as long as in the School Company.

The recognition of the work done by the Church Lads' Brigades, the Lads' Drill Association, and kindred bodies, is not so easy, but it seems that the former might easily be expanded into that portion of the National Service Cadets which will be found by the non-provided schools of the Church of England. In some of these latter the assistant clergy, who organise the Church Lads' Brigade, may become officers or company commanders. It is essential that their support shall be secured in the good work they have done so much to institute.

### PART IV.

#### A BRIEF RECAPITULATION OF THE ESSAY.

As the conclusions and proposals resulting from the foregoing are scattered through many chapters, they are brought together now as briefly as possible.



First, it is assumed that the Nation will not tolerate any but the most trivial form of compulsory training, till she be again badly frightened, and is also very averse to any great change in her time-honoured military forces, whether they be obsolete or no. The only course then seems to be to accept this and do the best we can with the existing conditions.

The definite conclusions of the Defence Committee with regard to the question of invasion, which have been accepted by the Government, give us our first authoritative standard to work up to.

In continuance of this conclusion, that invasion, other than an attempted raid, is impossible, and that we may want big forces abroad, it is put forward

1. That the Army (whether it be stationed at home or abroad) must be almost entirely available for service in the field, and that its scattered foreign garrisons must all have an allotted place in brigades and divisions that will rendezvous for war.

2. The first duty of the Militia is to take the place of Regular troops abroad when a war is afield. This would include India and be a legal liability. It must also be prepared to send Volunteer companies to the line, and even to volunteer to take the field as units.

3. The duty of the Volunteers and Yeomanry is very clearly marked. A considerable portion will be entrusted with almost the entire duties of Home Defence, with a Regular nucleus, which will be replaced by them or by Militia as they become efficient by embodiment. This portion of the Volunteers must have a sufficient permanent staff to overcome the working difficulties of taking the field inherent to the system.

The remainder of the force is to be as numerous as possible, and in common with that portion detailed for specific duties in connection with Home Defence, to exist to train the citizen as a soldier. Further, to have for its creed, and be organised for the purpose of, the provision of companies and composite battalions of those who are free to serve in war time with the army, and thus providing the machinery with which the Nation expands its forces, and the school in which it prepares for the great eventualities of war. The Yeomanry will perform for the mounted arm what the Volunteer force does for the others.

The report of the Norfolk Commission alone shows how very much can be done to make very much more out of this force than it has been possible to do up to date, and how rapidly it will respond to sympathetic treatment. It is perfectly clear that in the past we have not had full value from either Volunteers or Militia, and the report of this Commission has already helped the Army Council to remove many of the minor bars to efficiency.

4. The duty of the people of the nation is also clear enough, and that is to flock in their youth and strength to such of the forces of the Crown as suits their condition of life, to help in every way the time-expired Regular soldier, who has borne the burden of foreign service and an irksome discipline for them, and to understand the principles that underlie the nation's greatness and its defence. Lastly, and greatest of all, to train its lads in the civilian schools of the country, under the guidance of the educational and religious authorities, so that a patriotic spirit and the elements of self-control, of military training and of rifle skill may be instilled into every boy, the



better fitting him to join the defensive forces of his country or to volunteer for a war in the time of trouble.

A century ago the country fought for its liberty and that of Europe for a score of years and more, and since human nature and human aims are the same now as when Rome wrested sea power from Carthage, and then, combining the empire of the sea with military power, extirpated her adversary, so are we bound some day to have to struggle for our position as a mighty people. Let us read the writing on the wall while yet we may, lest we too be "weighed in the balance and found wanting."

*India, August, 1905.*

The attached Appendix gives various figures connected with our national forces that may be of use in reading this essay.

## APPENDIX I.

Recruiting and establishment *data* for general reference (chiefly taken from the Report of the Director of Recruiting and Organisation, 1904):—

### *Recruiting.*

Recruits for Regular Army from 1st January, 1904, to 30th September, 1904, were 41,279. Total number medically examined, 71,698, rejected, 24,658, or 34·39 per cent. Also between 1893 and 1902, out of 679,703 candidates for enlistment, 234,951 were rejected as unfit, or 34·6 per cent. Further, during this period 5,849 men were discharged as unfit within three months of enlistment, and 14,529 were invalided within two years of their enlistment.

14,932 Militiamen joined the Army between 1st October, 1903, and 30th September, 1904. In the four years and nine months following 1st January, 1900, no less than 70,803 men from the Militia joined the Army.

### *Strength and Establishments.*

The establishment budgeted for the year 1905-6 was Regular Army=221,300.

Militia on 1st October, 1904, were as follows:—

Effective	...	...	...	...	86,491
Establishment	...	...	...	...	123,510
Deficiency	...	...	...	...	37,019
Decrease in numbers since last year, 3,252.					

Strength by arms:—

Infantry	...	...	...	...	70,421
Artillery	...	...	...	...	13,352
Engineers	...	...	...	...	2,020
R.A.M.C.	...	...	...	...	698

Yeomanry:—

Effective	...	...	...	...	25,502
Establishment	...	...	...	...	25,752
Deficiency	...	...	...	...	250

## Volunteers:—

Effective	...	...	...	...	254,412
Establishment	...	...	...	...	343,679
Deficiency	...	...	...	...	89,267

## Statement of Auxiliary troops sent to South Africa:—

## Supplied by the United Kingdom:—

Militia	...	...	...	...	51,000
Yeomanry	...	...	...	...	36,000
Volunteers	...	...	...	...	20,000
South African Constabulary	...	...	...	...	7,000
					<hr/> 114,000

## Supplied by the Colonies:—

India	...	...	...	...	300
Over-sea Colonials	...	...	...	...	30,000
Enlisted in South Africa for the Irregular Forces, or supplied from local corps					52,000
					<hr/> 82,300

Grand total ... .. 196,300

## FOURTH SPECIAL MILITARY ESSAY, 1905.

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*Subject:—*

“THE BEST, LEAST IRKSOME, AND LEAST COSTLY METHOD OF SECURING THE MALE ABLE-BODIED YOUTH OF THIS COUNTRY FOR SERVICE IN THE REGULAR OR AUXILIARY FORCES AS EXISTING, AND FOR EXPANDING THOSE FORCES IN TIME OF WAR.”

*By Captain S. C. BIRCH, h.p., late Northumberland Fusiliers.*

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“*Holdfast*

*The friends thou hast, and their adoption tried,  
Grapple them to thy soul with hooks of steel.”*

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### SYNOPSIS.

THIS essay begins with an analysis of the subject to determine what line should be taken. A very brief description of the existing forces is given, where they serve, and the duties which may be expected of them. The terms of service which will be suitable for each force are given. I sketch a military organisation for the existing forces based on the territorial principle, the Regular Forces being left practically as they are. I show how almost all the Regulars are required abroad at once on the outbreak of a war, and how the Auxiliaries should be organised for defence. Then I discuss methods of getting recruits voluntarily for the forces, but show that the suggestions for voluntary enlistment must be backed up by compulsion. Advantages given to Service. Proposed Defence Laws as a basis on which to work. Division of the country into equal areas. Detail of method of obtaining recruits in the areas. Methods of expansion, the system being that of filling up units and not the endless creation of new units. A short study on the provision of officers, the numbers necessary, and other suggestions. I end with my reasons why the views taken by me should fulfil, if carried out, the end desired by the title of the essay.



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## CHAPTER I.

We can none of us too strongly impress upon ourselves the value of our old and existing institutions. They have grown with the growth of the nation, they are part of its life blood. In some ways they may not appear to be in every respect suitable to the present conditions of national life; but this is more in details than as a whole, and that is no sufficient reason for wishing to discard them wholesale. Our greatest poet has told Englishmen a similar truth in the well-known lines quoted above.

It is perhaps one of the most hopeless tasks which a writer can undertake to appraise at its true value contemporary history. The effect of events is absent, while there is so much which is so hopelessly out of focus that he cannot distinguish its exact outline or grasp how it will fit into history when seen by the impartial eye of posterity. The casual and perhaps sometimes carping critic is so often much too apt to forget that there is possibly really something very good in that which exists, but which seems to him to be only the results of the vapid strivings of an inane community. Or he may judge as perfect the invention or the results of the continuous labour of some one very strong man who carries with him for a time the flood of popular opinion. The critic is also very prone to imagine himself the director of some unattainable society in which everything should work out in accordance with dictates of his will.

Feeling these truths very strongly, I fear that I am almost certain to fall hopelessly into the very pitfalls which I know to exist, but which in the blindness of pride I cannot avoid. This must be my apology for treating, as I do, the complicated subject under discussion, which, in fact, amounts to constructing a method for putting new life, energy, and strength into our old friends, the Regular and Auxiliary Forces as they exist.

## ANALYSIS OF THE SUBJECT.

Perhaps it may not be out of place here to give an analysis of the subject from the writer's point of view, as it can only be by some such detailed consideration that the subsequent deductions can be fairly weighed.

What is wanted is a method of securing the services of the male able-bodied youth for the existing defensive forces, but the method

must be capable of expansion, and it is qualified by three very important provisos: It must be the best, the least irksome, and the least costly. Now the best method. This means as regards the nation, the most certain and efficient; but as regards the individual the best would certainly include the least irksome, while in one sense the best in the long run, both for the nation and the individual, will certainly include the least costly; or, other things being equal, the less that has to be spent out of the national resources on naval and military Services which are unproductive, the more there will be available for productive enterprise.

The least irksome. This will naturally be taken to mean the method which interferes least with the natural bent of each individual in the country; thus it follows that if the method introduced were so framed that the natural bent of each individual was towards service—as it is in Japan—then there would be no hardship at all. We may weigh the degree of irksomeness of any method in several ways. For instance, we may consider it light if it only interferes with very few members of the community, or should the service adopted be so short, and the standard of efficiency be so low, that the time demanded was very small, then the weight is very small on each individual, though to a certain extent it will bear on everyone.

As regards least costly. Here we come to a most knotty point in political economy. What is cost? Is it to be considered in this case as merely money spent by the State for its defence, which must include, to be of any use, the power of offence, or must it also include all the time wasted (if it be waste of time) on unproductive work by the individuals in the State? If we look at it from the first point of view, that of actual money spent, we must allow that our present system is very expensive, as far as our Regular Forces go, while if we consider it from the standpoint of the mis-employment of productive labour power, the Regular Forces are at present very cheap, since large numbers of the men who are now enlisted are greatly wanting in brain power and physical development, and therefore incapable of steady productive work. These deficiencies may be caused by defective moral training, and also in some cases by the want of sufficient good food. Here the discipline of the Navy and Army does to a certain extent make up for the want of previous moral training, and certainly the development of the physical powers of the youths are attended to, and they are given the necessary nourishment. So in this way the money which some would consider to be wasted is well spent on producing in the nation improved material for subsequent productive labour.

The Volunteers give the country the most marvellously cheap military material, as they only direct the superfluous energy of their members, which would otherwise be wasted or expended on recreation or sport, into the channel of military training, and therefore no productive effort is lost; but at present they are not considered to be fit for war, and unless fit for war, even the small sum spent on them is wasted.

The Militia, coming, as it were, in between the Regulars and Volunteers, probably misses most of the good points of both the other branches of the Service; but in the Militia alone we find the two secrets of military power, hidden, as it were, in a vault. These are the true territorial spirit and the ballot. The Militia, though pos-

sessing great potentialities, is, through not being thoroughly efficient, expensive.

Again, if a certain amount of work has to be done, there is not much difference in the expense, as regards loss of productive effort, if it is done by one man for twenty years or by twenty men for one year; but when we take large numbers we find that the effect on the nation is different; the latter will produce a nation of useful men trained to arms, while the former produces a class of pensioners, perhaps loafers.

To sum up, it may be said that the best method must be the least irksome, and that an indifferent system must be both irksome and costly to the State, since the money or labour, or its equivalent in time, which is spent on this bad method must be wasted as the results are certain to be inferior, unsatisfactory, and a discredit to all concerned.

So much for the title, which has certainly shown that the best system is what is wanted, since what is best must be the least irksome and least expensive in the long run, even though the apparent burdens to the individual and the State may seem to be heavy, both as regards the restriction of the liberties of the subject and the actual money outlay.

#### *Social and Political Aspect of the Subject.*

It is of course essential that the consideration of this subject should be absolutely free from any political, party, or social bias; or that any other object than the general good of the country should be considered. Still, all the conditions can scarcely be fully, fairly, and impartially weighed, unless account be taken at least generally of all the existing circumstances of the country. Politics must form a very important element in these conditions, while party politics will with us always also answer for a great deal. For many purposes it has been found that a party cry is a more important factor than the demand of all parties for real national efficiency, the latter wanting the backbone of an organisation; but it would be a thousand pities if the improvement of the martial forces of the nation were dependent on the action of one party and not the joint action of every party.

There are so many shades of opinion in each party that there is no hope of any very radical proposals as regards Army administration and organisation being readily accepted by all; but some middle course, such as the improvements indicated by the title of this essay, may stand a fair chance of approval by the moderate sections of all parties, and thus be carried out eventually. It may be said that every British institution has been built up by compromise out of precedent.

The extreme Jingo would like to see much more drastic steps taken than those which will hereafter be suggested, whilst the socialist, who would do away with national wars, and probably also law and order, by the extinction of all armies, cannot be expected to approve of suggestions by which, even under the most remote chances, he might find himself compelled to be a soldier.

When we consider the conditions of life and society in England, Scotland, Ireland, and Wales, we see that they are not exactly similar, that the laws which at present govern the several countries are not the same, and that in the various countries the laws are not respected to the same extent. It is therefore probable that suggestions which might be acceptable in England would require some



slight modifications in detail in their application to the other countries to suit the peculiar local conditions. It is, however, most important that the general principles should be similar and applicable everywhere.

The chief local military difference is the large development of the Militia in Ireland and the absence of any form of Volunteers, except two regiments of Yeomanry. It is a condition of affairs which must be accepted by any would-be organiser, however much he may feel that perhaps the very fact of a country having its population treated by the Administration as dangerous lunatics, reacts indirectly on that population and causes an apparent want of stability in its actions.

## CHAPTER II.

### *Existing Forces.*

So far we have only dealt with generalities, and as it were, cleared decks for action. It is now necessary to be as exact as the space at our disposal admits. The numbers, which have all been taken from the Navy and Army Estimates, have been rounded for convenience in further calculations.

The following is a brief statement\* of the existing forces of the country; these, if organised, would now be available for war:—

*Table A.*

	Existing.	Establishment.
The Navy (including Marines) ...	129,000	129,000
Naval Reserve (probably available) ...	35,000	60,000
Regular Forces at Home ...	137,000	137,000
„ „ in Colonies ...	73,000	73,000
„ „ in India ...	75,000	75,000
Army Reserve ...	75,000	75,000
Militia ...	86,000	126,000
Sundry Services ...	10,000	10,000
Yeomanry ...	27,000	27,000
Volunteers ...	245,000	343,000
	892,000	1,055,000

The above is really every man available for war in the Empire, except the Indian native army and Colonial forces, which, though most valuable assets, are beyond the consideration of an essay such as this.

A supply of young men is annually required for a certain proportion of these forces. For the purpose of calculating the number of recruits required, I have further rounded the numbers, the increases and decreases nearly balance in the total; this does not affect the argument:—

*Table B.*

Navy (including Marines) ...	150,000
Regular Army at Home... ..	140,000
Regular Army in India and Colonies ...	150,000
Militia ... ..	120,000
Yeomanry ... ..	25,000
Volunteers ... ..	275,000
	860,000

This number could easily be maintained if the existing units were kept up to a very moderate establishment, as I hope to show later. The force provided for on Table B is larger than that existing at present, as both the Militia and Volunteers are very much under their estimated strength; but it is much smaller than the present forces would be if these branches of the service were fully up to their establishment. The Navy is shown increased, but its growth during the last few years seems to warrant some provision for future growth. It will be noticed that the Reserves are omitted from Table B, as these automatically receive their strength from the overflow of the forces, when the men have served their prescribed time in the latter. The Reserve is only drawn from the country in case of war. When war does occur, every branch of both services requires a Reserve, and not only the Regular Army, which is alone, at present, provided with any Reserve worthy of the name.

It is obvious from a consideration of the above figures that the existing forces available for war are really large; it is not proposed to treat them as if they were only capable of placing the Navy, the Aldershot Command, and, perhaps, another Army Corps, in the lists against an enemy. They have proved themselves to be capable of keeping over 200,000 men in the field, with only a slight drain on the Navy, without any regular organisation as a whole. With an organisation and an adequate system of securing the services of the able-bodied youth of the country, it appears to me that it would not be asking too much to expect to keep nearly 1,000,000 men in the field. This is a small army, of course, compared with the gigantic armies of the Continent; but, as a backing to a really well-found and well-manned navy, it should be a fairly sufficient and formidable fighting machine, and such as would give the policy of the country weight in the world.

We have next to study the methods that are at present employed to keep the Army full. The system is one of purely voluntary service. The will of the individual being encouraged in the direction of service, either by martial ardour or the high rate of pay compared with the small quantity of labour required, or by the prestige of the position of being a member of some of the service formations. How far does this voluntary system meet the requirements of the country? It would appear only indifferently well if we may judge by results. The Regular Forces do not get the best young blood of the nation and what they do get they take very young. The Militia is not manned by men of a very high stamp, and is 40,000 under strength, while the purely Volunteer branches are about 100,000 under strength, they have no Reserve at all, and the physical standard of the men is not high.

The number of men which we require annually for our forces depends directly on the length of the term of service in each arm, once we have determined the strength of the forces it is necessary to keep up. As in the Regular Forces the terms of service have been continually changing, it is impossible to form an estimate of the Reserve ultimately aimed at by the Authorities. In this essay it is proposed to take, as the terms of service in each branch, what appears to be the probable final views of the Authorities. Length of service should depend upon two primary conditions, which are:—

1. The men should be with the colours sufficiently long to get a thorough and sufficient training.
2. They should serve in the Reserve long enough to make its strength ample for any emergency.

To lengthen the term of service unnecessarily means that fewer men get trained, and this necessitates more service in the Reserve for those who are trained.

We must decide what will be an adequate Reserve for war. No man can really dare place any limit. It should be, and ultimately must be, the manhood of the nation. Politicians may enunciate dogmas about war, and on the possibility of attack or invasion, based on the strength of our Navy and on those of foreign Powers; but history has always found it possible to repeat herself, and every country in the world has suffered from wars and invasions.

It is obviously absurd for Britons whose country has been on and off at war since B.C. 55, and probably before then, to imagine that peace will begin from the year 1905. Given a war, there are sure to be chances of invasion if there is a powerful enemy, and that while we are weak, fortune is not unpropitious to them.

The nation whose manhood will not fight, and will not sacrifice life and treasure for its existence, is not likely to keep its place amongst the first-class nations of the world; it certainly has not the slightest right to such a place. Britons, however, have, in the past, always willingly sacrificed both; but of late years they have not prepared for war in the same proportion as their probable foes have done. They have refused, as a nation, to make any real personal sacrifice until war was actually thrust upon them, and then they have invariably had to pay more heavily than would otherwise have been necessary. They have, then, disliked the process of payment. The sacrifices made to keep up the Navy are pecuniary, being money spent on shipbuilding which actually returns to the country in the form of wages, and have not been in getting men ready to fight these ships.

We must return to our subject and be precise. Our aim is to secure the able-bodied youth for the existing forces, and to form an adequate reserve for these forces, so that they may be able to expand in war. We wish to secure him as a Volunteer; if this is impossible, some form of compulsion will have to be adopted; there is an old saying about taking "the horse to the water," and compulsion pure and simple is very often apt to defeat its own ends, especially if drastically applied.

Before deciding on the terms of service which it would be advisable to adopt, it may be well to consider what exist for each class given in Table B.

In the Navy men serve for various terms, from a few years of non-continuous service to very long service to qualify for a pension, the age of entry varying from mere boys to men of 25 years. In the Regular Army at home it is felt that a short service of about three years should suffice, if this force were not required to be the feeder for the Indian Army, as it has been up to the present. The attempt to bring in a three years' system has so far not been a complete success. Men are now usually enlisted for a period of 12 years, of which from three to ten are spent in the reserve. [For particulars see Recruiting Regulations, 107, and Army Orders 209 ('03), 189 ('04), 7 ('05), 31 ('05)]. Some boys are enlisted, otherwise the earliest age of enlistment is 18, and the limit is 25. Practically almost all the recruits join at the



lowest age limit, as they have then the lowest value in the labour market. The Regular Army in India and the Colonies is still fed by the Home Army, but strong recommendations exist for this force being filled with men willing to serve nine years in the ranks abroad.

*Militia*.—Militiamen enlist for six years, and may re-engage for four years up to 45 years of age. They may begin to serve at 17.

*Yeomanry*.—Yeomen enlist for a period of three years, and may re-engage for a year at a time if under 47 years of age.

*Volunteers*.—Volunteers join usually for three years at a time, and may re-engage up to 55 years of age. Volunteer regulations are vague, and the engagement is really a contract between the individual and the unit.

It will be noticed there is nothing to prevent a man serving twelve years in the Regulars, if he enlists as a boy, before he is 26. Then he may serve say ten years in the Militia, four in the Yeomanry, and six in the Volunteers. He is never more than one unit in the national defence, but 30 years' training will have been expended upon him, enough to have produced at least ten efficient units. Such men do exist, and they are seldom at any time of much use to the country.

We must economise training or we cannot have efficient and sufficient forces and reserves. We should also take our men at the most useful age from a national point of view, and not at an age when they are most useless as soldiers. If we continue to do so we shall waste time and training, which is the same thing as money.

### CHAPTER III.

#### *Duties of the Forces.*

Before we consider in detail how we are to get our recruits for our forces, it is necessary to briefly consider the purposes for which the various forces mentioned in Table A exist.

The Navy is our first line of defence, and also our means by which we secure our communications should we attack. Without a commanding Navy an insular power is impotent. The first line therefore must be first considered and first served. Its action is necessarily offensive; no Navy can act on the defensive and secure victory. For naval work men require careful and long training. Without a thoroughly efficient and sufficiently numerous *personnel* the most perfect battle-ships are of no more value than scrap-iron. What we require is crews for all the ships and reserve crews of at least equal strength to those of the first line.

The duty of the Regular Army at home is to assist the civil power, to reinforce at the beginning of a war the Regular Army in India and the Colonies, and to form a nucleus of a striking force in any theatre of war at home or abroad.

The Regular Army in India and the Colonies has to maintain peace in those dependencies, to defend them, and to concentrate any available forces in any theatre of war.

The duty of the Militia, Yeomanry, and Volunteers is to form garrisons for the home fortresses, an Army for home defence, and to support the Army in the theatre of war with fresh complete armies, if this be necessary.

The duties above enumerated must be considered when we fix the terms of service which should be adopted in the various forces.

## CHAPTER IV.

*Suggested Terms of Service for each Branch, and Number of Recruits Required.*

*The Navy.*—I believe it is a fact that for the Navy men must be taken younger than for the other branches of the Service, in order to make them into good sailors, stokers, seamen, gunners, etc. I have taken the peace strength of the *personnel* required as 150,000 to be on the safe side. I will not venture to suggest what time it takes to make a seaman for the Navy, whatever his particular calling may be; but to take an average for purposes of calculation, I would suggest that the average service afloat should be seven years, and ten years' service in the 1st Naval Reserve. That is a total of seventeen years' service. I also suggest eighteen as mean age at which this service should begin. All men who have served in the Navy in any capacity should be enrolled in the 2nd Naval Reserve, and remain in it up to the age of 40.

If we work out the necessary supply to produce the above numbers we find it to come to, roughly, 24,000 men each year for the Naval Services. The term of service suggested will give a 1st Reserve about equal to the peace strength of the Navy and a 2nd Reserve of about half that strength.

Of course, this does not imply that the highest ratings and petty-officers should not be professional long-service sailors, without whom no Navy can probably be thoroughly efficient. There are doubtless some classes where shorter service would suffice, and these would balance in the totals required. The naval details are quite beyond me, but it is essential that there should be an adequate supply of men for the Navy; thus, when dealing with numbers I have allotted 24,000 annually to that Service.

In the Regular Army at home, which is calculated at 140,000 men, the service should average three years. At that the annual requirement to keep the force up to strength would be about 50,000. The service in the 1st Reserve should be nine years, and that in the 2nd Reserve seven years, service beginning at the age of 21.

In the Regular Foreign Service Army it is essential that the men should enlist for a longer term of service with the colours. This is apparently the view entertained at present by the chief authorities at the War Office. The men for this service must intend to make soldiering a profession, and they should receive pay accordingly; there are probably some appointments in the Auxiliary Forces which would be open to some of them later in life. Their original enlistment with the colours should be for nine years, and then three in the 1st Reserve of this force, after which eight years in the 2nd Reserve. As owing to foreign service there will be more annual waste than in the other forces, we must calculate on a larger proportion of recruits; this will work out at about 21,000 per annum. The service in this force should begin at twenty years of age, and they should not go abroad until they have had a year's training.

Next, as regards the Militia with a strength of 120,000, the service should be eight years with the colours and eight years in the 1st Militia Reserve, then three years in the 2nd Militia Reserve.

The number of recruits necessary to maintain the strength given above at the terms suggested would be 17,000 each year, joining at the age of twenty-one. The Militia should receive those soldiers who are invalided from the Foreign Service Army; its permanent staff should be found by the reserves of this Army.

The Yeomanry and Volunteers can be considered as one force as far as the supply of recruits is concerned. The service with the colours in each branch is the same, viz., ten years with the colours and nine years in the reserve, the service beginning between the ages of 17 and 20, if physically fit. Nearly 35,000 men will be required to join these forces annually to give them the necessary strength. In these forces the obligation for service in case of war should be exactly the same, but the amount of training necessary for efficiency should vary with the requirements of the particular arm of the Service to which specific corps belonged, the Yeomanry being Volunteer horse for both the Militia and Volunteers.

We are now in a position to add up the total of the annual draft required from the nation for its forces under the proposed arrangement.

TABLE C.

Navy ... ..	24,000 at 18 years of age.
Regular Home Army ...	50,000 at 21 " "
Regular For. Ser. Army ...	21,000 at 20 " "
Militia... ..	17,000 at 21 " "
Yeomanry and Volunteers ...	36,000 at from 17 to 20 years of age.
Total ... ..	147,000

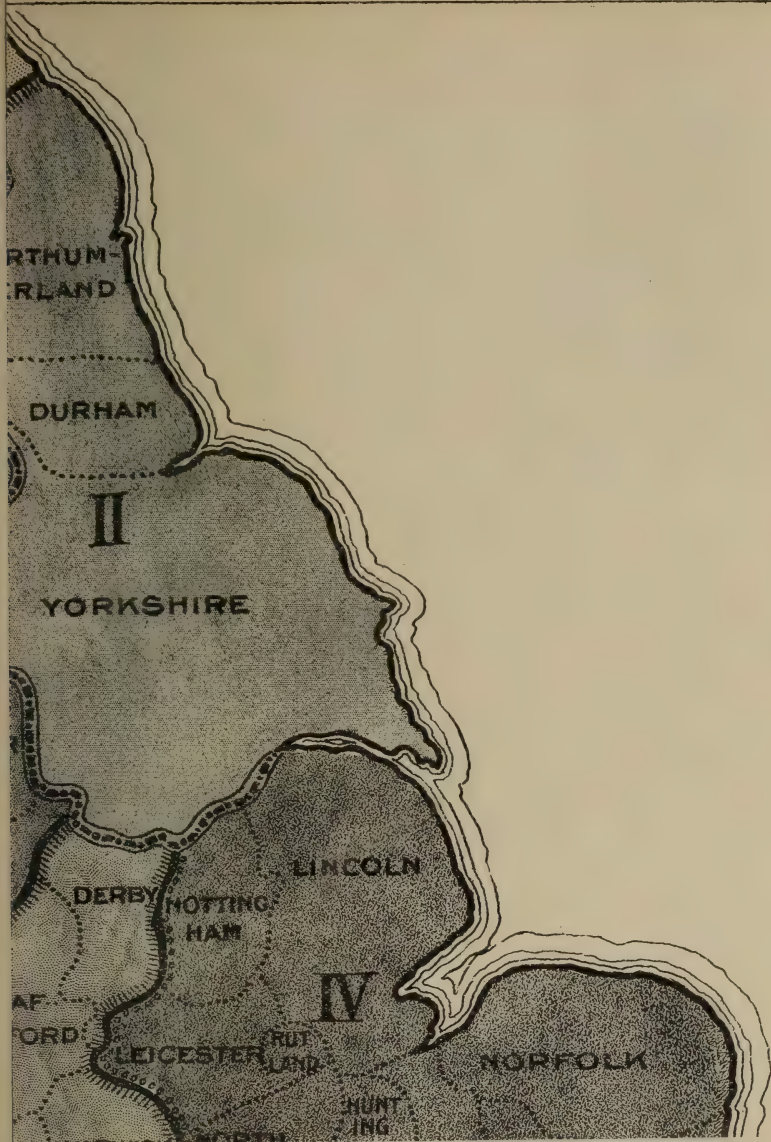
According to the tables giving the expectancy of life and statistics giving the number of males born annually, about 340,000 youths arrive at the age of 20 each year, a few more at 17, and less at 21. So the demand suggested by me only touches about 42 per cent. of the population, but it does not seem to me to be possible to employ usefully and fairly a larger number. It must be remembered that we in England have no statistics of the number of youths who are physically unfit for service; but it is probably fair to presume that it is not a larger proportion than on the Continent. So we have, in all probability, a very good margin for emergencies. A careful medical inspection will be necessary to eliminate all who are not thoroughly able-bodied.

Table C 2.

*Total Forces Available.*

	With Colours.	1st Reserve.	2nd Reserve.	Total.
Navy ... ..	152,553	169,368	78,648	400,569
Regulars Home ... ..	145,500	339,100	213,900	748,500
Regulars Foreign ... ..	152,834	42,798	96,453	292,085
Militia ... ..	122,485	95,897	39,525	257,907
Yeomanry & Volunteers ...	306,180	205,415	—	511,595
Total ... ..	879,552	902,578	428,526	2,210,656







The male population is about 6,300,000 between the ages of 20 and 40, that is during the time for which service is demanded. This means that about one man in thirteen will be doing actual service; one man in thirteen will be in the Militia or Volunteers; one man in seven will be in the 1st Reserve; and one man in thirteen in the 2nd Reserve.

The figures in Table C 2 have been worked out from those given in Table C, and show the exact number which would be available in each class, supposing a constant rate of decrease from death and other causes. A larger rate of decrease has been taken for foreign service than for home service. There is, I believe, an ample margin in these figures to produce the numbers required by Table B, because in them no allowance has been made for the return of any invalid or deserter, and no man who is found unfit for one force is used afterwards in another.

## CHAPTER V.

### *Organisation.*

In discussing the question of how to obtain recruits for the existing forces, I would have preferred to have left the organisation of these forces entirely as it is. In the following pages I have only suggested the most necessary changes. It is, of course, useless to arrange for the supply of recruits to what is utterly unsuitable for war; and any system which necessitates the use of any form of compulsory service, and the principle of the man's duty to serve the State, must be based on some definite territorial system, which takes the population of the country as the basis of organisation. I have found it impossible to accept the latest division of the country into commands as a satisfactory solution to the problem, but I have altered them as little as possible. The populations of the areas referred to vary by as much as six millions.

The attached map "D." shows the country divided, to the best of my ability, into areas of equal population. If greater accuracy be required, it will be necessary to add small portions of counties to one area and take from another. Again, only experience and further statistics can prove if those areas will really produce the exact number of recruits fairly, as, though the populations are nearly the same, the birth rate and the local rate of infant mortality may vary, and must affect the case. I have not found sufficient statistics to check these points.

The exact population of the areas, and the counties composing them, are given in Table E. It will be noticed that the areas Numbers 1 and 8 have a population of about a million less than the other areas. It was considered that the different laws and conditions of society in the kingdoms of Scotland and Ireland were sufficient reason for keeping them as units, a system at present adopted.

Before any further steps at organisation are considered, we must fix the garrisons of the coast fortresses necessary in these areas; and also make it clear to ourselves what troops are both nominally and actually recruited from these areas at present.

It is clear to any one who has studied the question at all closely, that Cardwell was right when he made the army to a certain extent territorial, and the pity is that his successors did not carry on his work. As this has not been done, it will be found that some alterations in the distribution of the local forces are necessary.



Table E.

Area.	Counties.	Population.	Area.	Counties.	Population.
I.	Scotland ...	4,472,000	V.	London ...	4,536,000
II.	Durham ...	1,195,000		Surrey ...	718,000
	Northumberland ...	603,000			5,254,000
	Yorkshire ...	3,596,000	VI.	Cornwall ...	318,000
		5,394,000		Devon ...	664,000
III.	Chester ...	793,000		Dorset ...	200,000
	Cumberland ...	267,000		Gloucester ...	648,000
	Lancaster ...	4,437,000		Hampshire ...	768,000
	Westmoreland ...	64,000		Kent ...	935,000
		5,561,000		Somerset ...	466,000
IV.	Bedford ...	175,000		Sussex ...	606,000
	Bucks. ...	173,000		Wiltshire ...	264,000
	Cambridge ...	200,000		Berkshire ...	283,000
	Essex ...	1,063,000		Oxford ...	186,000
	Hertford ...	240,000			5,338,000
	Huntingdon ...	46,000	VII.	Derby ...	491,000
	Leicester ...	441,000		Hereford ...	112,000
	Lincoln ...	493,000		Monmouth ...	316,000
	Middlesex ...	810,000		Shropshire ...	259,000
	Norfolk ...	468,000		Stafford ...	1,252,000
	Northampton ...	349,000		Warwick ...	906,000
	Nottingham ...	597,000		Worcester ...	500,000
	Rutland ...	21,000		Wales ...	1,793,000
	Suffolk ...	362,000			5,629,000
		5,438,000	VIII.	Ireland ...	5,458,000

Table F. gives proposed garrisons for the fortresses and harbours in each area. It is not meant to presume that the strength of the garrisons is nearly correct, or that they are sufficient for the individual fortresses; but they are, as a total, a fairly safe estimate. Care has been taken not to consult the secret books which give the strength of the garrisons at present authorised, so that no secret is divulged, and no criticism is directed at the existing garrisons. The supply and medical services for the garrisons should be arranged locally; no drain from the Regular Forces of these units is allowed for:—

Table F.

*Garrisons of the Fortresses in Areas.*

	Areas.	Regulars.		Militia.		Volunteers.			No. Regulars.	No. Militia.	No. Volunteers.	Total.
		Cos. R.G.A.	Cos. R.E.	Bns. Inf.	Regts. Arty.	Bns.	Rgts.	Rgts.				
Scotland ...	I.	2	—	2	1	2	1	1	300	3,000	2,000	7,300
Humber ...	II.	2	—	2	1	2	1	1	300	3,000	4,000	7,300
Mersey ...	III.	2	—	2	1	2	1	1	300	3,000	4,000	7,300
Harwich ...	IV.	4	2	2	1	4	2	1	900	3,000	7,000	10,900
Thames ...	V.	8	4	4	2	8	4	1	1,900	6,000	13,000	20,900
Dover ...	VI.	6	2	2	1	4	2		1,300	3,000	6,500	10,800
Portsmouth ...	„	8	4	4	2	8	4	1 <sup>1/2</sup>	1,900	6,000	13,500	21,400
Plymouth ...	„	8	4	3	2	6	4	1	1,900	5,000	11,000	17,900
Severn ...	VII.	4	2	2	1	2	1	1	900	3,000	4,000	7,900
Ireland ...	VII.	2	2	6	3	—	—	—	500	9,000	—	9,500
Total		42	20	29	15	38	20	9	9,600	44,000	67,000	128,600

Table G. gives the number of Regular Regimental Districts in each area, and the number of Regular battalions which are at present theoretically recruited in them. The number of Militia, Yeomanry, and Volunteer units in each are given, and it also shows what would be a fair proportion of cavalry and artillery for each area, that is to say, the number of units of these arms which should be recruited in each specific area:—

Table G.

Areas.	Cav. Regts.	Yeomanry.	Bats. R.H.A.	Bats R.F.A.	Cos. R.G.A.	Mil Arty.	Vol. Arty.	R.E.M.&V.	Regimental Districts.	Guard Bns	Infantry Bns.	Militia Bns.	Vol. Bns.	Total Bns.	Average No. of Bns.
I.	4	9	2	21	11	5	14	6	10	1	20	13	47	80	66
II.	4	4	4	18	11	3	13	6	9	1	18	11	21	50	66
III.	4	4	4	18	11	1	10	6	8	1	20	15	32	67	66
IV.	4	11	4	18	12	2	4	3	7	1	16	15	25	56	66
V.	3	5	4	18	12	—	3	5	4	3	22	9	36	67	66
VI.	4	14	4	18	12	5	13	12	12	1	30	17	32	79	66
VII.	4	9	2	21	12	4	8	4	9	1	20	16	26	62	66
VIII.	4	2	4	18	11	12	—	—	8	1	16	28	—	44	50
	4	7	4	18	12	4	—	6	8	1	20	16	31	—	—
	—	—	—	—	—	—	—	—	—	—	—	30 <sup>1</sup>	—	—	—

<sup>1</sup> Ireland

If we deduct the totals of Table F. from those of Table B., we find that the available army for offence and defence is as follows:—

Table H.

Regular Army at Home...	...	...	...	133,000
Regular Army, India and Colonies ...	...	...	...	150,000
Militia ...	...	...	...	76,000
Yeomanry ...	...	...	...	25,000
Volunteers ...	...	...	...	208,000

592,000

The garrisons should be made up proportionately from each area, thus areas Nos. 5 and 6 will each receive a proportion from the other six areas. The fourth area could complete the fifth area, while in the sixth area it should be arranged that the necessary supplementary garrisons came from the other four areas to the nearest fortresses. Of the total of Table H, only 442,000 are at home; these should form the Home Army under normal peace conditions. But in a recent authoritative statement of the President of the Defence Committee in Parliament, it was clearly stated that eight complete divisions, presumably of Regulars, would under certain circumstances be required for the defence of India. This force is eight times 11,250, or 90,000 men in all, and comprises 48 batteries of field artillery and 64 battalions of infantry, 8 field companies of Royal Engineers, and 24 companies of Army Service Corps, and we may say at least three cavalry regiments. It is difficult to imagine that no increase from home of cavalry, horse, or heavy artillery would be necessary for a force of nearly three army corps; but the statement did not go further than to mention the eight divisions above noted, and I will not exaggerate these figures.

The following table shows what will remain of the Regular Army for purposes of home defence, after the deductions which are necessary and probable have been made:—

TABLE J.

	Cav. Regts.	Batts. R.H.A.	Batts. R.F.A.	Cos. R.G.A.	Cos. R.E.	Cos. A.S.C.	Battns. Infantry.
Total Regulars ...	31	23	150	108	70	80	166
Abroad ...	13	13	57	64	?	?	85
Fortress Duty ...	—	—	—	42	20	?	—
Eight Divisions ...	3	—	48	—	8	24	64
Total employed ...	16	13	105	106	28 ?	24 ?	149
Leaves for service in England ...	15	15	45	2	42 ?	56 ?	17

Three of the cavalry regiments are Household Cavalry, and of the seventeen battalions, ten are Guard Battalions.

This force which remains, with the exception of the twelve regiments of cavalry and the sixty batteries of artillery, is really a quantity which may be neglected. The cavalry forms four brigades with eight of the batteries of R.H.A.; this leaves 52 batteries of Horse and Field Artillery and some companies of Royal Engineers and Army Service Corps as all that is available to assist in the defence of the British Islands, or to form an additional striking force beyond the seas.

This reduction of our forces to about 320,000 Militia and Volunteers, exclusive of garrisons for the fortresses and commercial ports and estuaries, brings me to the point which I wished to reach, that there is really no Regular Army for home defence or to make further additions to the troops which will probably be at once employed at the beginning of a war, except the Auxiliary Forces. To be useful these Auxiliaries must be organised for war; this can only be done on a territorial basis. This, according to my suggestions, will mean that each area will have to produce about 40,000 men properly distributed as regards arms of the Service to form fighting bodies. The Auxiliary Forces must not remain as they are now, a mass of regiments of Yeomanry and battalions of infantry without cohesion.

Each area must furnish a like amount, which will be, whether we call it army corps or not, something as follows in constitution:—

An administrative staff for the area.

Two brigades of Yeomanry with staff and Horse Artillery.

One regiment of Heavy Mobile Artillery.



One division Militia with staff, artillery, and extra services.  
 Two divisions Volunteers with staff, artillery, etc.  
 One regiment Volunteer Engineers, which should contain the following companies: 1 balloon, 1 railway, 1 pontoon, 1 telegraph, and 3 field.

The whole of my deductions as regards organisation are embodied in Table K, which perhaps requires some explanation.

1. Is the total of the forces available at present?
2. Is the average in each area?
- 3, 4, and 5. Are the deductions which must be made from (1) before we arrive at the actual available force for the Home Army the exact allotment of companies R.E. and A.S.C.? There is a state of transition in the R.E., and units abroad have not got their supply and transport arranged on a war basis.
7. Gives us what is available for home service.
- 9 and 9a. Give what I have worked out as suitable forces for the areas. The Scotch area would require to have its units on a 20 per cent. lower establishment, on account of the smaller population.
10. Gives the units required for the defence of the Kingdom, to which must be added the four cavalry brigades which could be used at home or sent elsewhere as circumstances might dictate.
12. Is the total of the necessary local Home Army. The following lines show that there is a surplus in some directions and a deficit in others.

Table K.

		Cavalry Regts.	Yeomanry Regts.	Batteries R.H.A.	Batteries R.F.A.	Companies R.G.A.	Infantry Bns.	Companies R.E.	Companies A.S.C.	Militia Art. Regts.	Militia Inft Bns.	Vol. Art. Regts.	Vol. Inft. Bns.	Militia and Vol. Engineer Units.
1	Total existing ...	31	56	28	150	108	166	70	80	32	124	65	219	42
2	Average to each area ...	4	7	3½	18¾	13½	20½	8½	10	4	17½	9½	31½	6½
3	Abroad ...	13	—	13	57	64	85	?	?	—	—	—	—	—
4	Fortresses ..	—	—	—	—	42	—	20	—	15	29	20	38	9
5	8 Divisions ...	3	—	—	48	—	64	8	24	—	—	—	—	—
6	Total of 3, 4, & 5 ...	16	—	13	105	106	149	28	24	15	29	20	38	9
7	Take I-6 ...	15	56	15	45	2	17	?	?	17	95	45	181	33
8	Average of 7 in each area ...	2	7	2	5½	—	2	?	?	2	12	6½	26	5
9	Required ...	—	7	9	18	—	—	?	9	1	8	—	16	1
9a	Ireland ...	—	7	9	18	—	—	?	9	1	24	—	—	1²
10	Total required by this scheme ...	—	56	16	128	—	—	—	72	8	90	—	112	8³
11	4 Cavalry Brigades	12	—	8	—	—	—	?	4	—	—	—	—	—
12	Total of 10 & 11 ...	12	56	24	128	—	—	?	76	8	90	—	112	8
13	Surplus ...	3	—	—	—	2	17	?	—	9	5	45	59	?
14	Wanting to complete...	—	—	9	83	—	—	?	?	—	—	—	—	?

¹ None in Ireland.

² In each area.

³ Militia,

In the surplus shown in Table K the three cavalry regiments are Household Cavalry and ten of the battalions are Guards. These should not be interfered with; they have their special uses. There is a surplus in Militia and Volunteer units and a shortage of batteries of artillery, and also probably of engineers and Army Service Corps companies. As these additional batteries are for the Territorial Army, I would advocate that they all should be raised by the conversion of the surplus Militia and Volunteer units.

In this way, without seriously interfering with the actual constitution of the existing forces, they could be made into effective fighting machines with everything ready for war. The reduced Volunteer battalions would also supply the necessary for the increased numbers in the battalions which remain.

It is to be hoped that some such reorganisation scheme will not be considered out of place. Without such a reorganisation I fail to see how any scheme for the expansion of the forces proportionately in time of war can be made effective, or have any chance of success.

I have refrained from entering into all the details of the organisation which I have worked out, as these would only be in place in an essay on organisation as a primary subject, and not one in which it is touched upon to make other proposals comprehensible.

## CHAPTER VI.

### *Method of Obtaining the Recruits.*

To arrive at a method of securing the necessary recruits for all branches of both Services is a matter of considerable difficulty. While the arrangements have been hedged round by the fence of absolute voluntary service, they have never been fully attained, and have been extremely costly.

So far we have arrived at the following points: What forces exist, what forces should continue to exist, and the total number of men available and that are required for service. We have also stated briefly the terms of service which should be introduced, that the men trained may be most useful to the State and also form a sufficient reserve.

It is all very well to determine the length of service, the age of enlistment, etc., and then to say that the service is to be voluntary; but only the event can prove to what extent the necessary volunteers will be forthcoming.

There are some hopes of the expectations being in a measure fulfilled, from the fact that the natures of service suggested vary so much that the existence of the one may drive, as it were, recruits voluntarily into another. The arrangements by which recruits are taken for the various Services at various ages should make it possible for all to serve, without interfering with their education. It would, however, be to court disaster to trust to voluntary enlistment and the national military ardour which may exist, but is unlikely to take the concrete form of any sacrifice, and therefore the whole system must be backed up by good Defence Laws and a complete register of the population. Without these there would be a chance of failure, and there must be no avoidable chance of failure in a good scheme.

The first defence law which is necessary is one revising the law which authorises the ballot for the Militia. It must enunciate the

fact that every man owes to the State 19 years' service, should it be demanded of him, and that he is liable to pay it in any form necessary for the proper maintenance of the State. There should be absolutely no exceptions to this law except the Sovereign and those physically and mentally unfit, which latter class should include debased criminals. All other exceptions have proved themselves in other countries to be open to objection. Once a law of this nature has been passed, much of what we call irksome would be removed from service. A man would feel that he was only doing his own work and natural duty. The work required being a duty, the remuneration paid by the State for it should be small.

The second defence law should state that no male can enjoy civil rights or hold any State appointment, however great or small, before he has attained the age of 40, unless he has served or is serving his prescribed time in one of the forces of the country and is an efficient member of that force.

It is clear that no country should be ruled by those who are not willing to share in the burdens of its defence unless they have attained a mature age.

The third defence law should be that every male must be registered in the area in which he is born, and that he or his natural guardians must notify if he remove out of the area, and that he should be subject to a heavy penalty if not forthcoming should he be required for service. There should be penal clauses against anyone maiming or self-maiming any male to make him unfit for service.

The fourth defence law should provide that full service in any recognised Colonial Militia or Volunteer Corps will count towards qualifying for citizen rights; but that such service does not count as a portion of the quota furnished by the area in which such Colonial Volunteers were born.

Now, what exactly is required for each area? It is about 19,000 men from the English areas and 17,000 men from the Scotch and Irish areas. The differences in the Irish areas are a matter of regret, and I am sure it would be in many ways better if the law could include Ireland on an equal footing—it would be to the ultimate good of the nation. The non-existence of Volunteers in Ireland is an evil; if they could be safely instituted, much which is now very unpleasant might, it is hoped, disappear.

The healthy fusion of classes resulting from Volunteer service should tend towards general contentment. I am, however, bound to bow to the decisions of the authorities and to treat the forces as they exist.

The small annual contingent of recruits, which is provided for above, will really be found not to be much larger than what has now to be provided, if we consider all classes of recruits; but the number required for the Army will be much larger and that for the Volunteers and Yeomanry much less. With the system suggested we should get the men which we actually required with certainty, at the most useful age, exactly when we wanted them, and altogether. All the recruits would be liable for 19 years' service, and this does not appear to be a small tax upon a man, though as a point of fact it really does not amount to much.

The country, if it exercises due economy, should not and need not attempt to pay highly for its home-defence soldiers. They should



be fairly paid, but not over-paid. It is certainly not necessary for any man to have nearly ten shillings a week as pocket money given him by the State, when all his necessities are provided. This lavish treatment only teaches habits of intemperance and waste, which take long to unlearn; three or four shillings a week would be ample. The country should not pay anything to any man in any of the many forms of reserve which are here suggested unless called up for training, except to those men of between 9 and 12 years' service in the Foreign Service Army, who should be looked upon as a reserve for small Colonial wars.

The reserve pay of these men, if paid weekly, might help them to get into regular civil work; but the State should be bound to aid them to employment in other ways.

The fundamental principle underlying my suggestions is, that every branch of the Service should be enlisted voluntarily from a given annual contingent; but in the event of there not being sufficient volunteers, ballot should select from the annual contingent the necessary recruits to fill the branch of Service in question. That is to say, that the provisions of the laws above suggested must be sufficiently strong to ensure the success of the scheme if adopted; all half measures are always doomed to failure.

The advantages held out to individuals for embracing the profession of arms, or rendering voluntary military service, should be considerable. There is certain to be little or no trouble in getting the necessary voluntary recruits for the Navy and for the portion of the Regular Army serving abroad if these advantages are sufficient.

The following is a detail of the suggested methods for obtaining recruits from any one area. All the arrangements should be made in the area for the recruitment, and they must be based upon the annual register of males in the area. The first call is 3,000 men, who will have to be produced annually, for the Navy. These should be volunteers; they must be taken at whatever is the most suitable age, which can only be determined by the naval expert. For a landsman to advise on such a point would be impertinence. The arrangement should be such that, say, at the age of 14, 16, or 18, or whatever may be the ideal age for beginning the nautical education of the seaman youth, all those who attain this age in the area may volunteer for sea service—say on the 1st March. These must all be medically examined by the 15th March. If there be then a deficiency in any area it must be made good; firstly, by the equal division of any surplus which there may be in any other areas, and secondly, if there is a total deficit, the areas which have failed to produce the necessary quota should apply the ballot amongst the youths in each area who have attained the necessary age in that year. Should the draft to complete be very small, the ballot might be restricted to certain coast sub-areas, these sub-areas being required to furnish fewer recruits proportionately out of the same annual contingent for the Army at a later date.

The inducements for joining the Navy should be similar to those given for volunteering for the Foreign Service Army, which I propose to explain fully later.

Men drawn for the Navy by lot should be allowed to exchange for service in the Regular Foreign Service Army, provided that a free substitute be forthcoming out of the same annual contingent; all payments for exchange to be illegal.

The second claim from the area would be the recruits for the Foreign Service Army. For this force all that would be required from the area would be about 26,000. This demand would be considerably less than that which is now made upon the country for the Army, but it would all fall upon the one category, namely, that containing all youths who reached the 20th year before the next 31st December, and it would be required all at one time, say the 1st March, volunteers having given in their names by the 1st February and the ballot being put in force if necessary on the 14th February to make good the deficiency. Every effort must be made to make this force, like the Navy, an entirely voluntary service. To attain this the status of men in these Services must be good, and the ultimate prospects of the men who serve in them should be very good. I feel certain that there will be really no difficulty in obtaining volunteers for these Services, if service in them is practically the only means of entering any form of civil, police, the post office, and several other favoured forms of employment. Employment of this kind should be given none while there is a man who has completed his service available, and the employment of females in the post office and boys in the telegraph service should be reserved for the children of these men. If investigation showed that these services would not produce sufficient employment for the men of the long-service forces, other steps would have to be taken. There can be no doubt that it would be easy to frame regulations to make these Services attractive; but even with them it might at first be difficult to get the necessary number of voluntary recruits, because the people are unwilling to believe in the continuity of any policy or promises held out by any Government while it is only supported by one party.

The question of the rate of pay is not so important as it might appear. It might not be politic to make any large reduction, as for some years the existing Services and the new ones would have to overlap. The new recruits, some of whom would be of a superior social status, would find it difficult to serve in an inferior position on inferior pay to the old class of soldier. It could not be considered desirable to promise to the existing soldiers the same appointments which it is proposed should be the right of the new class, for the very simple reason that in very many cases they could not keep these appointments if they were offered to them. Still, soldiers of the old class should be provided with employment, and those who were capable, if of good character and trustworthy, should be given good employment.

It must be acknowledged as the duty of the State to start in good employment all its soldiers and sailors on their return to civil life from military service. They must be given a start whatever their character may be, the best characters and most trustworthy men getting the best posts. Bad characters should not be kept in the Service, and all men thus discharged should lose all civil rights until the age of 40.

Added to the civil employments, which should be reserved for ex-sailors and soldiers, there will be a certain number of quasi military appointments, such as those of senior non-commissioned officers in the various branches of the Services which only have short and intermittent service, in which old soldiers might serve for some time and earn a pension in their old age.



The Home Army, the Militia, and Yeomanry and Volunteers must train the greater number of their own non-commissioned officers, as to depend upon the reserve of the Regular Foreign Army for these non-commissioned officers would be both bad for the reserve and for the other branches of the Service, which must be self-supporting, as far as is possible.

I may be very sanguine, but there is to my mind absolutely no doubt that in a very few years not only would all the necessary voluntary recruits of splendid physique be forthcoming, but that there would be great competition for appointment to the ranks of the Navy and the Foreign Service Army.

There are, however, those who always object to anything new, and no leap in the dark must be taken. If the new system is undertaken its success must be absolutely assured by law, and therefore there must be the ballot behind voluntary enlistment for both the Navy and the Foreign Service Army. Volunteers for these Services should have as far as possible, as regards numbers necessary and personal physique, the choice of the arm and the unit they wish to join, whilst the man selected by ballot will have to go where he can be most usefully employed.

The contingent for the Foreign Service Army should join for training on, say, the 1st March. In each area there should be a training school, which should be formed into a squadron of cavalry, a battery of field artillery, two battalions of infantry, a company of engineers, a company Army Service Corps, and a company Army Medical Staff. The training at these schools should be progressive, and last till 1st October, when all men should have a month's leave on full pay prior to going to join their respective units abroad. The cost of these depôt schools should fall half upon the home Exchequer and half on that of India.

I have expended a good deal of space on the provisions for the Navy and Foreign Service Army, as I feel that the success or failure of the whole scheme here evolved depends upon the results of these suggestions.

I hope to see the flower of the manhood of the nation attracted into these forces, and thereby the martial spirit of the country fostered and strengthened. Once this happens, no provisions which may be necessary to make the other branches fully efficient can be serious difficulties. It is in these two Services that the State demands the most from a man, and therefore the State is morally bound to repay in kind what it has taken from the man. As a matter of fact, the State will eventually be the gainer, as it will have in the important positions which are in its gift men who have received a thoroughly good moral training, and who should be really most thoroughly qualified for these appointments. The men not being taken until 20 years of age, there is no reason that they should not be thoroughly well educated.

A man should not be prevented from volunteering for the Foreign Service Army because he has been already trained as a Volunteer; but all men who so move on from the Volunteers into the Foreign Service Army must be replaced in the Volunteers by recruits from the same annual contingent. No man can, under any circumstances, count as a unit in two branches of the Service. Regular soldiers, when they join the Auxiliary Forces as non-commissioned officers, will cease to be kept on the strength of the Regular Reserve.



The third class, which has to be drawn from the annual contingent, is the draft for the Yeomanry and Volunteers. For this each area has to supply a little over 4,000 men, Ireland only finding men for seven units of Imperial Yeomanry, unless it is considered possible to relax the present laws regarding Irish Volunteers.

Men for these Services should be allowed to volunteer during the 17, 18, 19, and 20 years. Any man who is efficient after six months' Volunteer service should be exempt from the application of the ballot for service in any other branch, and will remain so, provided he continue to be efficient. Men in the Volunteers should receive no pay except when in camp for training. They should receive their uniform from the corps as at present, the money being found by the Capitation Grant. The existence of Volunteers makes it quite unnecessary to allow any of the exemptions which exist on the Continent, since a man can be an efficient Volunteer and still be quite capable of earning his living.

The considerable length of service which is suggested for Volunteers in this scheme may be objected to; but I think that men who can take their training very much when it suits them should not be let off with a very few years of such training. A man while an efficient Volunteer should have full citizen rights, which he will forfeit if he is not efficient. Any man who leaves the Volunteers before he has completed his period of service should be drafted into some other branch of the Service, or punished as may be decided.

All Volunteer recruits should begin their training in February, and should be passed in September as efficient. No man should be allowed to join the Volunteers who has not been found sound by medical inspection. All recruits should have attained some given standard of education similar to that required in Germany for a one-year Volunteer, but probably not quite so high.

I do not apprehend the slightest difficulty in obtaining the necessary recruits for the Volunteers; but should the attractions of the other branches of the Service be so great that Volunteers were not forthcoming, a ballot to complete the necessary numbers would have to be taken. This ballot would be applied to the annual contingent after the general ballot for the Short Service Army and Militia had been taken from the contingent of that year.

The Volunteers and Yeomanry should be liable for service abroad, though not primarily intended for such service. They should not be sent abroad until the full reserve of the Short Service Army and Militia has been called out; and if sent abroad, arrangements must be made to form new units in place of those sent away.

The standard of efficiency demanded from the men should be high and the force should be organised with staff and all the units necessary to enable it to take the field.

The fourth and last demand on the annual contingent of each area should take place in April of each year. In this month, if a sufficient number have not already volunteered for service in the Regular (Home) Army and the Militia, the ballot must be resorted to. The total number which has to be raised from each area by voluntary enlistment and the ballot is 8,000 men.

There will be variations in the numbers drawn from Scotland and Ireland due to their smaller populations and the social conditions.

The service required from a man in the Regular (Home) Army would come to about  $2\frac{1}{2}$  years for the infantry and 3 years for cavalry

and artillery. There would be no reason why infantry battalions should be kept up to full strength in the winter, unless the political horizon happened to be clouded.

Thus a man would nominally get about thirty months' training in the infantry and rather more in the mounted branches and technical services.

In the Militia, after a recruit training of about three months, men would only have to perform a training of from 4 to 8 weeks each year. Men who volunteer for service in either of these forces should have choice as to which they will serve in, as far as circumstances will permit. Volunteers for these branches must apply and be passed as medically fit for service before the 15th March each year, so that the authorities should have time to find out what numbers are required from the ballot by the 1st April.

It may be urged against the above proposals that there would be a large portion of the population who were arbitrarily excluded from civil rights because there were not sufficient formations to take them all. For those who are physically and mentally incapable of service, I can see no reason why they should have rights before the age of 40; they are only a drag on the country, and should have no say in its administration. For those who are fit and who are really excluded by want of sufficient military formations, each area in which the ballot had not had to be enforced for any of the drafts on the annual contingents, might be allowed to form a 3rd reserve for the Volunteer units from all men willing to serve and who could not serve from want of sufficient Regular formations. In these areas and from those annual contingents to which this exemption applied, all 3rd reserve Volunteers, upon being passed as efficient Volunteers, should be allowed all civil rights. This 3rd reserve could, in case of war, form the nucleus of extra formations should they be considered desirable.

## CHAPTER VII.

### METHOD OF EXPANSION.

No country can usefully keep an Army on a war footing; but we of the British Empire have to keep a portion of our forces in constant readiness to fight against minor adversaries, and hence the existing organisation and the alterations which have been suggested, which, it is held, would make it more efficient. Part of our forces are so distant from reinforcements that unless prepared to hold their own against any probable local adversary, they had much better not exist at all.

It will be noticed by reference to Chapter IV. that the reserves for the forces are based on various hypotheses, that for the Regular Army being only such as would furnish about one-fifth of the strength of that Army from the 1st category, while the reserve of the Home Army should furnish nearly  $2\frac{1}{2}$  times the strength of that Army. It is from this reserve that the Foreign Service Army and the Home Army should receive reinforcements. There should be a territorial link between each unit of the Foreign Service Army and a territorial area, so that there would be no difficulty in meeting the supply. The reserve for the Militia should fill the Militia, and that for the Yeomanry and Volunteers the Auxiliary Services.



So far no proposal has been made to increase the number of units in the event of war; but that can scarcely be considered as quite right. It is most important that the drain should be replaced in the units of an Army, and with the large forces proposed the ordinary drain of a war might be met. But war is the struggle of nations, and provision should be made in all organisations for the employment of all the sinews of the nation and to keep the sinews in good condition.

For this reason it is considered advisable that during war provision should be made for the recruitment of extra units of all arms from the portions of the population which have escaped all service by the suggestions already put forward. These units should take the place of Yeomanry and Volunteer units should these be sent out of the country.

It is not considered to be possible to keep a force of more than 400,000 men continually up to establishment at a distance from the United Kingdom, and therefore if the Regular Foreign Service and Home Armies and the Militia not used for garrison duties were abroad, it is improbable that the fighting efficiency of this Army would be increased by adding to them extra units. The expansion necessary is the keeping the units up to a full fighting strength. This would leave at home the garrison and an Army of Yeomanry and Volunteers not much short of 240,000 men available for the defence of these islands. This Army should be mobilised at once on the outbreak of a serious war and the garrisons made up to strength, and each area should then give their local Army a month's combined training. If after that, invasion seemed extremely improbable, such portions of the Volunteer Army as were not of any material assistance to the war could be sent on leave, subject to immediate recall in case of need.

It must be clearly understood that the demands on the reserve are exclusively for the particular force to which the men belong, except in the case of the Regular Army, where the Short Service Army Reserve will be available to supply the necessities of the Foreign Service Army during a war.

These men, being trained men between the ages of 24-30, are the flower of the nation's manhood, and are most likely to be able to stand the strain of war. In wars of great length it may be necessary to draw on the 2nd reserves of the various branches of the Service, and of course on the contingents which annually come to the fighting age. Countries really pressed by a war for existence will draw on their youths down to the age of 17 and on men over 40. If it ever comes to drawing on this latter class they should be formed into new independent units for duty in fortresses, relieving younger men for duties in the field. The dash required for attack will not, as a rule, be obtainable from men over the age of 40; but these men will often prove themselves to be second to none in defensive works. In all these extra formations the principle of the area being the unit of supply must be maintained. Each area must provide what is required from its categories.

The central administration of the Army only determining what is necessary for the existing circumstances and the areas providing what is required, it is only on these lines that unlimited expansion of the resources of the country is possible. As I have said, it is not so much a question of unlimited expansion of units but the continual maintenance of fighting efficiency in the units which exist,



and which have been shown in this statement to be necessary. It should be a principle that if any Volunteer organisation leaves an area during war, a corresponding reserve Volunteer organisation should be formed at once from the numbers of those who have not served at all.

By the suggestions made under this heading, it is considered that an Army of about 200,000 Regulars could be easily placed on the Indian frontiers, which, supported by the supplies of trained men available in India, should not mean less than half a million men. This is not as much as Lord Roberts considers necessary; but then his scheme is not limited by the existing Regular and Auxiliary Forces.

Supposing the situation of 1809. There would be no reason why 200,000 men of the Short Service Army and Militia should not be landed in Holland or Spain, and that this Army could be kept at that strength for two years, while the defences of the United Kingdom would be secure.

Suppose the situation of 1854; our force to assist France against Russia would be 150,000 men organised for war.

The Home Service Army, having only men between the ages of 21 and 24, would always be available for service anywhere at a week's notice in case of a small war, and should the war be prolonged, the reserve would be ample to keep this force always up to strength.

The 1st reserve of the Regular Foreign Service Army should be used to fill up losses in the ranks of this Army when the war engaged in only required the services of this Foreign Service Army. This reserve, as stated above, would be the only reserve which received pay when not called up for training.

## CHAPTER VIII.

### OFFICERS.

The provision of officers for the Navy and Army is a very serious question. It is perhaps even a more serious question than the provision of men; certainly there are some difficulties which almost every country in the world has found to be nearly insurmountable. Good legislation will and can produce men. Whether it is good or bad to enforce service by legislation is an open question, which may be argued both ways, though I am convinced that it is necessary if voluntary systems fail; but it is not possible to make a really good officer by law. Cap braid is absolutely useless in producing the necessary power of command in the head covered by the cap.

We do not appear to have any difficulty in obtaining a sufficient number of officers of the right stamp for the Navy under the present system of taking them young. Whether the system in vogue for the last thirty years or the one introduced in 1903 is the better does not affect the case; they are generally the same except in details. So I would advocate no change in this system except such as ordinary progress may dictate. There should also be some system of increasing the reserve of naval officers. The reserve of men without an adequate reserve of officers is not very much use. How far the present system of drafting from the Royal Naval Reserve, *i.e.*, the Merchant Service, would be satisfactory in war is a question. It would probably do very well if these men were given purely navigating duties, whilst

commands were filled up by promotions amongst the regular executive officers. The engineers, who should be very numerous in peace time, as the strain on them in war will be enormous, can almost certainly be satisfactorily filled up from the same profession in the Mercantile Marine. However, the best system of producing naval officers in reserve is for the naval expert to decide.

The number of men to furnish the officers has, as in the case of the Army, been included in the totals, so that the totals are not affected by any arrangements made for the officers.

In the Army things are different; our present regulations do not provide sufficient officers for the existing formations, and the reserve is insignificant. The long list of names in the Army List is most deceptive. No Army is worth calling an Army unless it has enough officers capable of leading it. These officers will receive casualties, and more casualties than the men. They must be replaced at once, if the forces are to maintain their efficiency.

The forces, according to the scheme above propounded, which require officers are large, say some 700,000 men serving and some 700,000 more in the reserve. If we take the proportion of officers required at 4 per cent., we find that we shall want 56,000 officers in all—28,000 in the existing units and 28,000 in the reserve. These numbers do not include officers for the Regular Native Army in India, or any local Colonial forces.

There is perhaps no country in the world which has such a large class of men from whom officers can be drawn as the United Kingdom possesses. We also pride ourselves that no nation has produced better officers. In the past the Kingdom has sent generals to every country in the world. There is some power of leading and much love of fighting still in the blood; this must be fostered and encouraged.

Let us consider each of the branches of the Service separately, and suggest some means of getting the required officers. To begin with the Regular Army. While I divided the men into different categories for the Home and the Foreign Service Armies, I should not advocate this being done with the officers. The officers of the Army must to a very great extent be professional soldiers, just as those for the Navy are professional sailors, and it is not good for them to receive all their experience in one country, as they may have to fight in any country; besides, health suffers from continual foreign service. For this reason and to equalise promotion, units of the Foreign Service and Home Armies should be linked, as far as officers are concerned, and also for the employment of the senior non-commissioned officers as instructors at home. The service of officers at home and abroad should be regulated by roster, with great freedom of exchange between linked units.

It must be acknowledged that in a short service Army with a large number of recruits to train annually, more work will be required from the officers than is even now required; and as this will be undoubtedly a deterring influence on rich officers continuing to serve, it will cause a considerable accession to the reserve of officers. Probably about the same number of officers will wish to join the Army; perhaps even more, as the richer classes will doubtless try to become officers to avoid other forms of service.

The question of how to educate the Regular officers is beyond the scope of this essay; but I would suggest that every candidate for



a commission should be an efficient Volunteer before he is allowed to compete in any examination.

Officers joining must be bound to serve for twenty years, the authorities deciding what number may be annually passed into the reserve of officers.

It must not be forgotten that to obtain professional soldiers the rates of pay must be based upon the present cost of living, and that they should receive a fair wage according to the position in society which they are intended to occupy. A leader of men should not be in the position of a beggar.

The selection of rich men for all high Army appointments, because poor men cannot afford to keep up the state required of them, is a disgrace to any country. If this is continued, few hard-working officers will be forthcoming under any system.

As regards officers for the Militia, they should serve for a similar period to the men, and should be trained for a continuous period of at least one year. The Militia should not be a stepping-stone by which officers can enter the Regular Army; this is bad for both Services. At the present moment I do not believe that there are 25 per cent. of the subalterns in the Militia who have any intention of continuing to serve in that branch of the Service. Militia officers, to be efficient, must receive a fair rate of pay; there must be no question of their sinking their military rank. They should not be allowed to go to the Reserve of Militia until they have eight years' service. Of course, service as an officer in the Militia should qualify for full civil rights, just as service in the ranks does.

At present officers in the Militia fall, roughly, into three classes: The first, the country gentleman, who likes a modicum of soldiering, and who considers the training an amusement; the second is the youth who has had his elementary education neglected, and who hopes to get into the Army by passing through the Militia. The first class will doubtless meet the requirements of the improved conditions suggested above; the material, being undoubtedly good, should produce good officers when properly trained. The second class is not to be encouraged. If youths of this class have the making of good officers in them, they should be assisted by some provision for promotion by merit from the ranks of the Regular Army to commissions in every branch of the Service. The present system is certainly most harmful to the Militia. As only some 5,000 officers are required for the Militia, there should be no difficulty in getting the necessary men, when we remember that for very little personal inconvenience a man is doing his duty to his country and earning citizen rights.

There will have to be some permanent appointments in the Militia, such as brigadiers in areas, brigade-majors, adjutants, quartermasters, and a small instructional staff. The officers so employed should be exclusively Militia officers, though the men of the staff can be partly from the 2nd Class Reserve of the Foreign Service Army.

For the Yeomanry and Volunteers, there has been much difficulty in getting officers. This is perhaps not acute at this moment in the Yeomanry; but this may only be a passing fashion.

For these forces, as for the Militia, it should be understood that an officer cannot sink his identity as such at any time. They should be as proud of their rank as are their brethren in the Regular Forces. They should be paid each year a fixed sum for efficiency to cover actual expenses, say subalterns £20, captains £35, majors £60, lieut.-



colonels £100. Those permanently employed as adjutants and quarter-masters to be paid at Army rates. The system of being unpaid does not seem to me to have answered well; but of course this is a suggestion which is open to criticism. What is wanted is that the best men should be obtainable for appointment, and it is very doubtful if we shall get them if they have always to be sufficiently well off to pay the necessary expenses out of their own pockets.

It is most necessary that there should be selection in the choice of officers originally and in their subsequent promotion. This can only be possible if there is some tangible benefit in being an officer. The provisions here brought forward ought to tend to make it more attractive to be an officer than not; while the ordinary Defence Laws above suggested should encourage many who now do not take any steps towards soldiering to become officers.

Inefficient officers should not be retained; men thus rejected should be punished by the loss of all civil rights, they being useless to the State, unless they are willing to serve as soldiers, Militiamen, or Volunteers, as the case may be, or have attained forty years of age.

## CHAPTER IX.

### CONCLUSION.

The above are the outlines of a scheme which I believe would meet the requirements of the nation for war. That is, for holding her existing possessions and for striking an effective blow should the necessity arise. The forces arranged for have been essentially the existing forces, though the scheme has suggested alterations in their construction which seem to be absolutely necessary to make them sufficiently manageable, and also to give us the various arms of the Service in the proper proportions.

Each of the obvious necessities of the nation at war has been considered and specially provided for. These are: The protection of the home ports, the protection of our Indian and Colonial possessions on the basis of the present garrisons; the provision of a striking force with an adequate reserve to meet the requirements of a protracted war; and the provision of a large force for home defence should that be necessary, this latter being organised so that it can go anywhere if required; lastly, though it should really take first place, a full and, it is hoped, sufficient reserve is provided for a powerful Navy.

As has been said before, the only complete reserve is the manhood of the nation. Still, with the eight military training schools for the Foreign Service Army, whose normal duty it would be to turn out rapidly trained soldiers, there would be some hope of the machinery existing which could form extra units if need be, and to furnish further reserves for the existing units in a short space of time.

It has been previously mentioned, but it is obvious to anyone who has studied the systems by which the rest of the world gets its recruits, that there must be a complete system of registration of the population of the country. We pride ourselves upon our statistics very often, but they are in reality very much guess-work. The basis of any good military system is the register of the male population, without which all is in reality chance. Without it no fair ballot can

be applied, and if no fair ballot can be used, every system based as this is on the population of the nation must fall to the ground.

The reason why I consider this the best system for obtaining the able-bodied male population is that it would be efficient. The men would be produced; they would come at an age when useful, and would not waste two years in barracks before they were men. It is based on the naval and military requirements of the nation, and not on the convenience or enthusiasm of any particular district.

The system should not be irksome. The acknowledged duty has to be performed equally by the manhood of the nation, and no individual man can acquire his citizen rights without service until he is forty years of age. He is given a great number of ways in which he may perform his duty in a voluntary manner. If he selects one of the hardest forms of duty and does it well, the State is made responsible for his future, unless he will not perform the work offered to him. If a man cannot suit himself in the performance of his duty, his mind is made up for him by the ballot.

The system should be no more costly than the present one, and be relatively cheaper than any other which employs the existing forces. No more men are employed than at present, and the paid reserve is less. The actual pay of the Navy and the Foreign Service Army would be about what it is now, or a little more, while the pay of the home service man might well be reduced. It does not do a man any good to have more pocket money to spend between the ages of 21 and 24 than he is ever likely to have again.

The Militia should cost about the same as at present; the trainings might well be longer, but the bounties should be saved—these are merely bribes to secure men under the present system, and would be unnecessary.

The Yeomanry and Volunteers should cost little if any more than at present, though money spent in directions which lead to efficiency is not really an expense to the nation.

There is no reason why a reserve man should receive any pay, as when he returns to civil life a similar drain is made upon civil employment by the demands of the next contingent; so if he is willing to work he should be able to get it.

The system should be really most economical to the nation, as by it a very large proportion of the population will receive an education in self-defence and self-restraint, their bodies also receiving physical development. A nation so trained should be capable of greater productive powers than a nation which only really employs its unemployed for defensive purposes.

The Militia, Yeomanry, and Volunteers would have efficient units, organised so as to be immediately available for defence or offence. They would then be economical Services, even if some additional money were spent in making it more easy to get the best available material as officers for service in them. If the three-quarters of a million men which it is proposed should be available in these Services are so organised as to be in a condition to take the field, even if the cost were considerably increased, there can be no doubt that it would be true economy. When we are told, as we are now, that any portion of the national defences are not of any use in case of war, we know that, if this be true, all the money and time expended on these forces are wasted.

The question of expansion has not in any way been overlooked, but with the number of units available it has been considered that the power of expansion should primarily move in the direction of bringing up full reserves to meet the waste of war, and to bringing the existing units, in combination as fighting bodies, into line with those of the Regular Army. This will of course cause an increase in the number of officers for the staffs of these extra formations.

The primary division of the United Kingdom into eight districts will simplify organisation. Each district will have again to sub-divide its area for further administration; but it is obviously impossible to go into details of this nature in a short paper.

The figures produced above in the arguments are the results of many processes, which would be too lengthy to follow. The books to which general reference has been made are:—"Whitaker's Almanack"; "The Encyclopædia Britannica"; Army and Navy Estimates, 1905; "Organisation and Equipment," Banning; Official Army List; the German Army Regulations; German Defence Regulations; the *Times* reports of speeches by the Prime Minister, Lord Roberts, and others.

It is felt that this essay has only touched the fringe of the important subject, and indicated general lines on which advance may be made. The people of the country can alone carry out the work by continually insisting on its legislature the necessity of passing the required Defence Laws. This it will only do if it is known that the moral and military training of a nation has always been and always will be the true foundation of its greatness.

The country will find that the best way to get this military and moral training is to demand the service of its manhood in its armed forces as a right. It will then be found that this is the cheapest and least irksome method.

The man, once he is made a portion of a comprehensive and efficient national organisation, will no longer feel that service in the defence of his country is an insupportable burden.

Any half measures are doomed to failure. It may be politic to gild the pill of compulsion, and it is certainly the country's duty to see that its servants do not suffer, but gain, by good and willing service.

The welfare of the country is every man's first duty. He owes service to the country, and should see that it is well done. It is not alone by being an armed nation that the country will prosper; it is by being a nation manned by patriots in the true and best sense of the word. If this be achieved, then will Britain "HOLDFAST" her heritage of freedom.



## FIFTH SPECIAL MILITARY ESSAY, 1905.

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*Subject:—*

“THE BEST, LEAST IRKSOME, AND LEAST COSTLY METHOD OF SECURING THE MALE ABLE-BODIED YOUTH OF THIS COUNTRY FOR SERVICE IN THE REGULAR OR AUXILIARY FORCES AS EXISTING, AND FOR EXPANDING THOSE FORCES IN TIME OF WAR.”

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*“Nunquam non Paratus.”*

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THE ideal Army, composed of the very pick of the nation's manhood, could only be raised and maintained subject to the consent of the nation to universal liability for military service.

This, whatever may happen in the future, is apparently outside the range of practical politics at the present time. No Government which attempted to introduce it would, so we are told, survive the attempt.

Failing universal liability, we have to fall back upon voluntary service, and are immediately confronted with the problem of how best to attract to the Army in sufficient numbers the stamp of man who will be likely to make a good soldier.

In considering this problem we have to bear in mind that in these days of heavy and increasing Imperial expenditure, modesty in the question of pay must be studied, while, if the inducement of high pay cannot be offered, compensating advantages in the conditions of life and service are necessary in order to compete successfully with the other professions and callings which absorb the youth of the nation. In short, we must either offer a rate of pay which compares very favourably with those to be obtained in the labour markets, or the conditions of life and service must be such that men of the right stamp will consider them as outweighing the disadvantages of an inferior rate of pay.

Now, in the first place, what is the right stamp of man for the Army?

He should be between the ages of 18 and 25, should be of sound constitution, and of such physique that he is, or will after a short period of good food and physical training become, fit to support the hardships, privations, and exposure of service in the field.

He should be intelligent, so that after training he may be trusted to fulfil satisfactorily the functions required of the individual by modern conditions of warfare; and if possible he should be of good character.

Recruits for the Regular Forces and Militia, which latter passes many men on to the Regulars, are obtained in the main from the following sources:—

- a. The families of soldiers.
- b. Men who from some cause—failure to obtain work, a discreditable action on their part, a love affair, or inability to get on with their relations—find it desirable to quit their homes for a time.
- c. Youths who, without knowing or thinking much of the practical advantages or disadvantages of the Army, are attracted by the uniform and the glamour of a soldier's life.
- d. Men who are discontented with the other means of employment open to them, and who, after making enquiries, form the opinion that the Army offers them a more congenial life and better openings for advancement.

The great majority of Class (a), having been brought up among regimental traditions, and having, as it were, "soldiering" in their blood, enlist as a matter of course, either as boys in the band or drums, or later, when of an age to do so, as ordinary recruits, and thus their case presents no problem, at any rate in the initial stage.

Classes (b) and (c), though the causes of their attraction to the Army may lie in the main outside the consideration of any advantages or disadvantages of Army life, could be much improved as sources of supply, both with regard to quality and numbers, if, in addition to the introduction of those measures which would tend to mitigate the conditions which at present cause the Army to be unpopular, and which will be discussed presently, recourse were had to a little skilful advertisement.

This might be done by causing to be inserted weekly in the cheaper popular papers, such as the *Daily Mail*, and various provincial and county papers a column of description of a soldier's daily life in the various branches of the Service at home and in the Colonies, written in an interesting narrative form with details of pay and expenses, and enlivened with accounts of sport and amusement, and the various special courses of professional instruction.

In addition to this, the authorities might offer prizes from time to time for the best photographs of troops on the march and in action, and of incidents in military life, which would make interesting and effective pictures.

From these photographs, enlarged, coloured or uncoloured prints and engravings could be prepared similar to the Christmas and summer supplements of the illustrated papers, and issued to regimental institutes throughout the Army. Such pictures would, if good, find a ready sale at a nominal price among the men, who would send them to their friends and relations, thus ensuring that they obtained a wide circulation, and indirectly advertising the Army and causing a more sympathetic interest to be taken in it.

Superior coloured posters, too, could be prepared from the same originals and affixed to public buildings and offices throughout the country, in lieu of the stiff and unattractive recruiting placards which are to be seen there at present.

Class (*d*), which has never been large, is unfortunately apparently decreasing still further, owing to causes which will be discussed in the following pages.

Advertisement such as that recommended above would no doubt tend to improve this class as a source of supply, but would be of very little use by itself.

Let us now consider what are the factors which make for unpopularity of the Army, and so act adversely on recruiting, and how these conditions could be improved.

First, there is the idea which, unfortunately, still obtains among a considerable portion of the civilian population, that the Army is composed of a "brutal and licentious soldiery"; that "soldier" is merely another word for "blackguard"; and that a son or brother who "goes for a soldier," or a daughter or sister who publicly consorts with one, must be considered as having gone irreclaimably to the bad.

That this idea is still fairly prevalent is proved by the instances which come to notice from time to time of non-commissioned officers and soldiers being refused service or admittance at hotels and places of public entertainment, of parents willingly scraping together their small savings in order to buy out of the Army a son who has enlisted, and of the difficulty which a discharged soldier meets with in obtaining employment in civil life, even when possessed of more than average qualifications.

Also, one has only to mix with and talk to the classes from which our recruits should come to realise very quickly that, however much they may admire the Army and its records in the abstract, they have, in a very large number of cases, a great aversion to their relations or themselves having anything to do with it personally.

No doubt this prejudice will die out eventually. Newspapers and a more universal education, as well as the great improvement in the standard of living and behaviour of soldiers themselves, have lessened it considerably already; but without being attacked by other means it will die hard and slowly.

If in all schools, physical and the elements of military training, including instruction in the handling, aiming, and firing of the rifle were made compulsory by law for every able-bodied boy; if for all Government employment, suitable for soldiers, a period of service in the Regular or Auxiliary (naval or military) Forces were made a *sine quâ non* of eligibility; and lastly, if all officers of the Regular Forces were compelled by regulation and officers of the Auxiliary Forces encouraged to wear uniform whenever they appeared in public, except when engaged in games or sports, the discredit at present attaching to military service would in a very short time be converted to honour.

Another and perhaps more serious deterrent to recruiting and cause of unpopularity, both for the Regular and Auxiliary Forces, is the way in which responsible ministers, Members of Parliament, and the Press of the country criticise and condemn the capabilities, organisation, equipment, training, and indeed everything to do with both officers and rank and file. The only people who are really in a position, and whose personal interest it is, to reply to these



criticisms, and so present both sides to the public, are the people criticised, and they are forbidden by regulations to do so.

The consequence is, that the general public, who have no personal knowledge one way or the other, and on whom we depend for our voluntary recruits, form the idea that all our officers, with few exceptions, are uneducated, incapable, indolent, and inefficient; that the Army is badly managed and equipped, and also absolutely inefficient; that it could not be depended upon in time of need; that no definite improvement in its organisation and condition has taken place, or is likely to take place, for some time; and consequently that at best it is a risky concern to be connected with, and more likely to bring discredit than honour or success.

In consequence, though they recognise that we must have an Army of sorts, they are extremely anxious to avoid any personal connection with it.

A further serious consequence of this unbridled and heedless depreciation is this: Anyone with a knowledge of human nature must have observed that the majority of people will, failing—and even frequently in spite of—proof to the contrary, rate a man at his own valuation.

Nations are merely collections of individuals, and the same truth applies to them. Moreover, it is in the last resort the *people* of a nation, not the Government, who make war or peace, and, given an International dispute of sufficient gravity, the decision of a nation as to whether it is desirable to fight or not is very powerfully influenced by that nation's estimated superiority, equality, or inferiority with regard to its opponent. When we consider also that as almost all our powerful neighbours favour conscription, and consequently most of their male population are or have been soldiers, it is not difficult to realise that the opinions publicly expressed from apparently well-informed and influential sources in England, and scattered broadcast over the world, as to the inefficiency and harmlessness of our national military forces, may quite possibly some day be the means of turning the scales in favour of war.

We are always being warned against under-rating our enemies. Let us also avoid an even more serious mistake, and one likely to lead to worse results—depreciating and under-rating ourselves.

Soldiers would be the last people to deny that at the time of the South African War the Army was not in an efficient state, or to contest that it is not capable of very great improvement still; and no one welcomed or welcomes more than they did and do the hope of *genuine* reform. But they resent hotly the imputations which would make the Army responsible for everything which has gone wrong, and the contention that it has not already made and is not still making very great strides towards efficiency.

Further, these contentions, exploited principally from political or private motives, are not only very unfair to the Army, but also calculated to seriously injure it and the country. For not only will the constant carping tend to affect the number and class of recruits for the rank and file, but also it causes a very general feeling of disheartenment and disgust among the existing *personnel* of the forces, and will in time, if it has not already done so, seriously affect the supply of subaltern officers.

After all, who was responsible for the arming, equipment, and organisation of the fighting forces previous to the war; for the lack

of facilities and encouragement for officers, and through them the rank and file, to study and perfect themselves in their profession; for the exaggerated centralisation of authority and responsibility; and for the "red-tape" system which paralysed all initiative and sense of responsibility in individuals in peace time, and led to such deplorable inefficiency and fear of responsibility in war?

Certainly not the Army.

The officers come from the same classes precisely which supply the Navy and the other professions. In the competitive tests which they have to pass before entering (and which are prescribed and carried out, not by the military, but by the Civil Service authorities), their capabilities and performances compare favourably, according to the evidence of the headmasters of all the great public schools, with those of the candidates for other professions. After joining, most of those who have been really given the opportunity to think for themselves and develop their own initiative and sense of responsibility have given a very good account of themselves, as has been witnessed by innumerable instances on the Indian Frontier and on minor expeditions and operations in Africa and elsewhere, and may further be proved by anyone who cares to inquire into what the British subaltern has done and is doing under the Sirdar in the Soudan.

Further, if the capabilities of leadership of the present-day British officer are as poor as many people would have us believe, how is it that he gets such good work out of native troops, who, as has been proved over and over again, will follow him anywhere—and this not only in the case of the best types of natives but also with those who, under other leaders, are beneath contempt as soldiers?

Since the war, very great improvements have been made in the way of decentralisation; company, subaltern, and non-commissioned officers are now given opportunities for exercising their own initiative and sense of responsibility with regard to their commands, and the men also are taught individually to use their common-sense to further the successful accomplishment of any given plan—a state of things which was practically unknown before the South African War. No one who has any expert knowledge of the Army will deny that an immense improvement has resulted in consequence already.

Draw public attention to abuses and failings in the Army and its administration, by all means; but, having done so, and ensured measures being taken to remove them, give the main scheme of reform (formulated by Lord Esher's Committee, after the most prolonged and exhaustive discussion by Parliament, Committees, and the Press in the latter part of 1903 and beginning of 1904, and approved and adopted, with slight modifications, by the Government and the country at once as the surest and most practical method of attaining the desired end) time to develop; give credit where credit is due also, and spare the Army the incessant carping and depreciation, based for the most part on matters which happened in the past, and for which at the worst it is extremely doubtful whether it was responsible.

Let us remember also in connection with this scheme that when changes of so absolutely drastic and sweeping a character are made, as these had to be, at once, without complete information or the aid of a preliminary experimental term of practical experience in their working and results, there are sure to be occasions when the authorities will appear to be inconsistent owing to their finding themselves obliged to modify or alter the plans originally announced in order to



meet the requirements of a riper experience or changing strategical conditions.

A third important cause of unpopularity of the Army arises from the unfavourable reports of discharged soldiers on their return to civilian life—reports to which point is added by the men's difficulty in getting employment.

And here we have at once what is undoubtedly a very serious deterrent to any intelligent man who thinks of enlisting.

In a voluntary Service like ours, where, owing to the limitations imposed upon them financially, the authorities have difficulty in attracting sufficient suitable men for the defence of the country, it is inconceivable that the Government should not make use to the fullest extent of all available inducements at their disposal. Nevertheless, they do not do so.

The police, the postal and customs services, and *all* Government employment which is suitable for soldiers and sailors, without exception should be strictly reserved for men who have served a certain term in the naval or military (Regular or Auxiliary) Forces of the country.

Not only is it common justice that the man who sacrifices his time, abilities, and in many cases his health and prospects to the voluntary defence of his country, should have more claim on the consideration of his country afterwards than the man who stays comfortably at home; but also it is very expedient, not to say necessary, if we wish to continue to obtain suitable men in sufficient numbers to prevent national disaster.

A considerate and generous policy in dealing with officers and men who have served in the fighting forces of the country would do more than anything else to root out unpopularity and false ideas with regard to the Army among civilians, would attract a better stamp of man in larger numbers, and would cause a great improvement in the *morale*, conduct, and professional keenness of the existing *personnel*.

Also, although great efforts have been made in the way of improvements in pay, messing, quarters, and other details, to make the soldier's life healthier, more comfortable, and more interesting, there are still many matters in which a change, while causing little or no expense, would remove causes of discontent, which, however trifling they may appear to outsiders, or even, in some cases, to Army officers, are not so by any means from Tommy Atkins' point of view.

Of what use, for instance, is the valise equipment for any *practical* purpose? What little it saves in the way of transport, could be saved, and the saving increased far more cheaply and efficiently, by the adoption of lighter, better, and more suitable transport vehicles, and an improved saddle for pack animals.

By far the most practically useful wheeled transport for general service, in any country where wheeled transport can be used, is the light cart in use in the Indian Transport Service. It weighs exceedingly little, carries 800 lbs. of stores, is extremely simple in construction, easily repaired, easily and rapidly loaded and unloaded, has an interchangeable centre-shaft, which makes it equally available for mule, bullock, donkey, or horse draught, two animals being required for it. Finally, it is extremely mobile, even in rough or enclosed country.



In most of the countries and climates where our Army could be called upon to operate the valise equipment cannot be used, and when it could be used it would greatly handicap and impede a man's movements in the field, particularly nowadays, when rapidity of movement, rapid and accurate snap-shooting, cover and concealment are of such vital importance. It requires elaborately careful packing and fitting, and if worn for long it would, in a great many cases, injure a growing youngster's health by its constriction of the lungs. It takes up a good deal of a man's spare time in cleaning, packing, fitting, etc., and on service, even with the existing types of *matériel*, the little extra transport its abolition would entail would be more than compensated for by the individual soldier's increased efficiency and mobility, and his ability to carry more ammunition and water, or a light pick-axe in lieu of it.

While on this subject it is well to mention also the entire unsuitability of the present pattern of ammunition pouch, and the position it is worn in.

There is no doubt whatever that this pouch was directly responsible for the loss of hundreds of killed and wounded in the South African War, by preventing men from moving freely in a recumbent position when under fire.

To continue: Of what practical use are guard and sentry duty, as employed in the ordinary routine of garrison life? Where there is any necessity for a guard or sentry, otherwise than just for show, the duty could be performed far more economically and just as efficiently by armed or unarmed military or civil police; and there is no question as to its uselessly fatiguing the men and taking up valuable time which might otherwise be occupied in practical and useful instruction.

Why also should soldiers be employed on fatigue work which has no connection with anything they would ever be called upon to do in the field? It is surely mistaken economy to take valuable and costly men away from instruction in their profession, in order to save the slight extra expense which would be necessary to give discharged soldiers of good character regular employment in performing necessary fatigue work—employment which would help to show both the Army and the public that the Government did not ignore the claims upon it of men who had served their country.

Out of the time thus saved from guard and fatigue duties, a portion could be employed in teaching the men individually—not theoretically in a room, but practically on the manœuvre ground, and without curtailing tactical instruction—how to cook their meals to the best advantage; how to make themselves serviceable shelters; how to make doubtful drinking-water safe; and a thousand and one other things with the appliances and materials they would be limited to on active service.

This would enormously increase the efficiency of our forces in time of war, by reducing the wastage of men from avoidable exhaustion and disease to a minimum, besides removing a fruitful cause of discontent with the men in time of peace.

By considering the men when possible, by doing what can be done to make them contented and happy during their service, and giving those of good character priority of claim to Government employment on discharge, we should not only cause them to speak well of

Army life when they themselves have left it, but also induce a large percentage of them to extend their colour-service.

No doubt some people will argue that this, if it took place on a large scale, would be undesirable, owing to its effect on the Reserve; but, as under the War Secretary's scheme for short service home battalions, this result would only affect appreciably the number of reserve men from the Foreign Service battalions, and would be more than compensated for by the increased efficiency of these battalions for war, and by a considerable saving in expense, this objection is not important.

Men are drafted to India at between the ages of 20 and 25; after serving there for 7 or 8 years, they are between 27 and 33—that is to say, in their prime. In addition, they are acclimatised; accustomed to the ways of the country; thoroughly trained under the most favourable conditions; and on the finest military training-ground in the world; and in every way far more fitted for service there than when they first went out.

Numbers of these men, if given their passage and three or four months' furlough in England, at the end of their first period of colour-service, together with priority of claim to Government employment on discharge, would be only too glad to return to their regiments for a further period of 5 or 7 years' service, which would still leave them at 40 years of age or under.

The actual cost of sending them back to India would not be any more than that of replacing them by new men, and the wastage through sickness and other causes after their arrival infinitely less.

Of course, it is understood that only men who could pass a severe medical examination would be accepted in this way.

With regard to the Reserve, that from the short service battalions would not be appreciably affected, while, in case of the necessity to send reserves to India—by far the most probable scene of our next war on land—it would be infinitely more desirable to have unacclimatised men in the reinforcements rather than in the forces which would be responsible for the first moves in the game, and have to bear the brunt of the first efforts.

In these days the success or failure of operations at the commencement of the first campaign have very far-reaching effects.

Let us now briefly consider the question of the Volunteers.

Much has been written and said for and against their efficiency as a fighting force as at present constituted, but of all the conflicting theories and opinions, two indisputable facts stand clearly out.

The first, that if properly organised and trained in peace time this force would be invaluable, if not absolutely indispensable, to the nation in case of our becoming involved in a serious war.

The second, that if treated seriously, and with reasonable tact and consideration by the Government and military authorities, there need never be any fear of a lack of men of the right kind to keep it up to full strength, or of members of the force willing to give their services to assist the Regular Army abroad in time of national need.

To get the full value, however, out of the patriotic feeling which undoubtedly exists, the Government must be prepared to encourage and utilise it practically, even though by so doing the Army Estimates should be increased. It must also be prepared to treat the



force seriously, and thus eradicate the impression that Volunteers simply play at soldiering.

To this end the force should be armed and equipped from rifle to transport in as up-to-date and thorough a manner as the Regulars. It would not be necessary to buy transport animals and vehicles for this purpose—a system of registration in each district of all animals and vehicles suitable for military purposes, and the payment of a small annual subsidy to the owners of as many as would be required for the use of the local Auxiliary Forces, would ensure transport always being available in each district for annual trainings or for war purposes at short notice, and for a moderate rate of hire.

All expenses of actual training, such as the provision of ammunition and rifle-ranges, cost of annual training camps, with cost of transport to and from them, etc., should be defrayed by Government.

On the other hand, no man should be accepted as a Volunteer who would not be considered physically fit for active service in the Regular Army, and, in addition, having regard to the short time which can be spared by the Volunteer during the year for military instruction and training, no man should be accepted for any branch who is unable to make a high percentage of hits, firing at a stationary target at a short known range, and for the mounted branches, who is unable to pass a thoroughly satisfactory test in riding also.

After enrolment, every hour of time available for training should be devoted strictly to instruction and practice in (a) shooting under service conditions (as nearly as they can be obtained); and (b) *bonâ fide* tactical training.

Close-order drill—beyond the very little sufficient to enable men to be moved as a disciplined body in convenient formations from one place to another—should be abolished.

Marching-past, Guards of Honour, and ceremonial parades of all kinds should be absolutely forbidden, in view of the fact that every moment which the Volunteer can spare for military purposes is urgently required for his practical training for war, if he is to be worth the expense which the country is put to on his account.

Inspections should be strictly confined to examination of corps and units in practical tactical exercises, shooting, and the skilful use of natural features of the ground as cover, both when moving and when halted.

Adjutants and non-commissioned officers of the Permanent Staff of Volunteer Corps should be most carefully selected with regard to their professional capabilities and methods of imparting instruction. In addition, it might even be advantageous to make all officers and non-commissioned officers qualify in a short course of instruction in Permanent Staff training duties before joining the Permanent Staff of a Volunteer Corps.

The uniforms of Volunteer Corps should be cheap, and should rigidly conform in material, colour, and pattern to the requirements of campaigning in this country during summer and winter.

It may be objected that to do away with ceremonial parades, and insist on a practically serviceable uniform, would remove two great inducements to Volunteers to serve; but this is by no means the case—the consciousness of being a picked man, of indisputable efficiency as a fighting soldier, and the knowledge that this efficiency is recognised and depended upon by the country and by the Regular Army, would be valued far more highly by 99 men out of 100 than the



pretty and doubtful pomp of indifferently performed ceremonial; and for the second part of the objection, it is quite possible to have a serviceable uniform which shall yet be very smart in appearance.

Lastly, officers and men should not be allowed to remain on the strength of corps after, from age or other causes, they have ceased to be efficient, and to this end the present qualifications for the "Volunteer Decoration" should be abolished and others substituted.

Under the existing organisation practically anyone may be a Volunteer. The Service is not taken seriously, and most Volunteer officers would regard the general use of their titles to Army rank as a subject for ridicule; whereas under the proposed modifications every Volunteer would be known to be a picked man.

Officers and non-commissioned officers would have reason to be proud of their rank as such, and would soon look upon the use of their Army titles in ordinary social intercourse quite as much as a matter of course as officers of the Regular Forces do.

Before leaving the subject of supply of *personnel* for the military forces under normal conditions, it is necessary to consider a question which is annually becoming more insistent and difficult, namely, the supply of officers for the Regular and Auxiliary Forces.

Up to comparatively recent times an officer's military duties and responsibilities were exceedingly light, and the military knowledge and attainments required of him very moderate. Provided that socially he was satisfactory and had means of his own, he could count on a congenial and pleasant career in the Army with little professional work, few professional ties, and a social position which gave him many advantages.

Under these conditions large numbers of young men, to whom professional pay was a matter of minor importance, were always willing to adopt the Army as an eminently gentlemanly and pleasant profession, offering them a sufficiency of excitement, change, and chances of distinction without occupying too much of their time.

Besides these, a considerable number of youngsters, mostly without much private means, joined with the intention of taking it seriously, and by application and hard work carving out a real career for themselves. Little encouragement, however, was given to regimental officers to try and excel as such, and there was no absolute necessity for them to do so, even up to quite recent times.

For this and other reasons such men soon recognised that their position in a regiment, at any rate in the junior ranks, was not suitable for the realisation of their ambitions, and moved heaven and earth to get out of it and into staff employ as early as possible.

The majority of those who failed to accomplish this became, after a few years, soured and embittered men, in whom the constant struggle against "red-tape" and the universal apathy blunted, if it did not destroy, all originality, initiative, and professional keenness and ambition. Thus, as modern conditions gradually caused the acquirement of modern military attainments to suit them to become increasingly important and necessary, an extremely bad state of affairs ensued.

From time to time individuals who had the real interests of the Service at heart did their best to introduce moderate reforms, but so strong were the forces of tradition and custom which opposed anything in the nature of a change that progress was slow and painful, until the South African War, fortunately for the country, opened

the nation's eyes suddenly and violently to the danger into which it had drifted, and made not only possible but compulsory many of the sweeping reforms which were necessary to bring the Army into a condition of comparative efficiency for modern requirements.

One of the first results of these reforms was that the military officer was almost immediately converted into an exceedingly hard-worked member of the community. He was given to understand that abilities and attainments which had satisfied the authorities up to that time would do so no longer, and that consequently if he wished to retain his position he must be prepared to set to work seriously to treat his profession as the principal object of his existence, and to spend the major portion of such time as remained to him after performing his military duties in increasing and perfecting his military knowledge.

At the same time, he recognised that the prestige attaching to his profession, and with it his personal position, had suffered considerably, partly as the result of the disasters of the late war, and partly through the ungoverned criticism of would-be reformers and others. He knew that he was liable to be called upon at any time to risk his life and health, not necessarily in fighting, which would offer him chances of distinction, but more often in military life and duties in an unhealthy climate, and in a place where he would be cut off from all the advantages of civilisation and his position.

He also knew that even if possessed of abilities and attainments which in almost any other profession would earn him success and a sufficient fortune to ensure a comfortable old age, he would still be liable to retirement with or without a small pension at an age when it is too late to start another career, and yet when one is still in one's prime.

Finally, he knew that his rate of pay, in spite of his enormously increased responsibilities, the increased demands on his time and abilities, and the increased cost of living, was about the same as that allowed to his predecessor in the time of Queen Anne, and that, small as it was, income-tax would be deducted from it before he received it, and it would be further diminished by compulsory expenditure for the constant, vexatious, expensive, and useless changes in the uniform and equipment with which he was obliged to provide himself.

What wonder if the young man with private means of his own begins to consider now whether the game is worth the candle, or the parents and guardians of the youngster, who will have to make his own way in the world, begin to doubt whether, by allowing him to enter the Army, they are giving him a fair start in life.

Possibly the time has not yet come when the increase of pay of officers of the Army is absolutely necessary, though undoubtedly it will come in a very few years now; but that some improvement in the regimental officer's position and prospects is urgently necessary, the increasing number of resignations in the junior ranks and the increasing difficulty in replacing them show beyond any possibility of doubt.

The following few reforms, which would cost the country very little, would materially improve the regimental officer's position:—

1. That no change be made in any article of clothing or equipment paid for out of the officer's own pocket unless approved of by the officers of the majority of units affected. Any proposed change could



be submitted to each unit in the branch of the Service which the change would affect, for the consideration and decision of the majority of officers in that unit. The decision of the majority of the units could then be acted upon.

In this way no change could be made without the approval of the majority of the individuals who would have to pay for, and, incidentally, to wear the article changed.

2. At every depôt of the Royal Army Clothing Department there should be a staff of expert cutters for each branch of the Service to cut out and superintend the making of uniforms, etc., for officers. A portion of this staff should be employed in periodically visiting each unit to take orders and measure and fit officers.

The price charged should be sufficient only to cover the Government's expenses in this undertaking, and should not include any profits. At present the prices paid by officers to private tailors for uniform, etc., are ruinous, the profits made out of them being in many cases from 100 to 200 per cent. If really first-class cutters were engaged, even at high wages, and the business carried out in business-like manner, it would cost Government nothing to supply officers with uniform of first-class materials and workmanship at an extremely moderate price, and thus an immense saving would be effected in the officer's expenses.

3. The story of the officer who applied, giving his riding weight, to the authorities for a "regulation crow," when his claim for travelling expenses was returned to him for revision, illustrates one of the many inequitable drains on an officer's small means. If an officer in carrying out a duty is compelled by circumstances to disburse money out of his own pocket in order to carry out his orders, such money should be repaid to him by Government on his certifying on his honour that he is entitled to it, and his claim being recommended by his commanding officer, independently of there being perhaps no regulation which authorises that particular item of expense.

Such cases frequently occur in connection with journeys undertaken in the course of duty, or with regard to "lodging" and "servant's allowances" in places where an officer may be called upon to serve, and where it is impossible for him either to obtain the use of Government quarters or a soldier servant, or to provide himself with suitable substitutes with the money allowances authorised by Government for these purposes.

4. An officer, no matter where he may be stationed in the world, is obliged to pay income-tax to Government on the wages which Government pays him, and this when on active service in the field as well as in peace time.

Even in the case of those officers, the total of whose pay per annum is so small that it is exempt from income-tax, the tax is stopped, nevertheless, out of their pay monthly previous to its issue to them, and only repaid to them upon a rebate claim being made by them at the end of the financial year.

By all means, make officers pay tax on any private means they may have, if such means amount to a taxable sum, but not on their Army pay, which, even without being taxed, is insufficient in the majority of cases to cover their obligatory expenses.

*Lastly*, and most important of all, all Government employment which officers could carry out should be strictly reserved for men who have served in the commissioned ranks of the naval or military



(Regular or Auxiliary) forces of the country. The average naval or military officer is possessed of quite as much ability as the average civilian who is at present employed, and there is no possible question that the former is far more entitled to employment by his country after his naval or military service is over than the latter is.

A few reforms and concessions such as these and a more sympathetic consideration of the regimental officer's position and prospects conceded by the authorities *now* would probably postpone indefinitely the necessity for a large outlay, which otherwise is certain to arise within the next few years, in order to attract a sufficiency of suitable young men to officer the Army.

Having briefly considered the question of supply of officers for the Regular Forces as existing, it remains only now to see how we should be situated in this respect in case necessity should arise for a large augmentation of these forces during war.

It will be demonstrated in a subsequent portion of this essay that quite possibly it may become necessary at any time, not only to use up the whole of the reserve at very short notice, but also to largely augment our existing forces from the civilian population.

In modern warfare, too, the proportion of casualties among regimental officers is greatly in excess of that among the rank and file.

Where under these circumstances would the extra officers who would certainly be required come from?

At present we have a "Reserve of Officers," whose actual strength is well under 3,000. Of these quite 20 per cent. would be unfit for active service in the field. The remaining 2,000 odd would be quite inadequate; and though civilians who have once received an elementary military training can be made reasonably efficient in case of necessity in a comparatively short time for service in the rank and file, *officers* could not be obtained in this way.

A very practical and simple solution of this difficulty would be the creation of a new rank—"sub-lieutenant"—in the Reserve of Officers, and the appointment to it of as many specially selected non-commissioned officers from the 1st Class Army Reserve as might be considered necessary to ensure the keeping up to strength in any probable contingency of the subaltern commands in the Army.

Such men should be most carefully selected for appointment in the first place, and should then be required to undergo sufficient training annually to keep them in all respects up to date, while naturally they would have to be granted sufficient privileges to make it worth their while.

In considering the question of how best to expand our land forces in time of war, it is desirable first to calculate approximately what these forces might possibly be called upon to do.

Accepting as correct the theory of what is termed the "blue-water school," that the Navy will remain powerful enough to answer for any probable combination of hostile naval forces, and so protect the United Kingdom and its Colonies and dependencies over-sea from any danger of invasion by sea, or serious interruption of their sea-borne supplies, we still have to reckon with:—

- a. Raids from the sea, from which the Navy, admittedly, cannot guarantee us;
- b. Serious invasion of certain of our Colonies from their land frontiers; and

- c. Risings in the Colonies and the little expeditionary wars against natives and others in various parts of the world which we are constantly engaged in.

The existing trained forces of the Empire available for these various purposes are approximately as follows:—

1. *The British Army*.—Composed of:—

Regular Forces (including Regular British Troops in India and other Colonies and Dependencies)	...	267,354	(X)
Army Reserve	...	80,000	(Y)
Militia (U.K.)	...	132,446	(Y)
Militia Reserve	...	10,000	(Z)
Militia (Channel Islands, Malta, and Bermuda)	...	5,970	(Z)
Imperial Yeomanry	...	28,114	(Z)
Volunteers (U.K.)	...	346,136	(Z)
Volunteers (Bermuda)	...	448	(Z)
Total	...	870,468	

2. *The Indian Army*.—Composed of:—

Regular Forces (Native)	...	<sup>1</sup> 155,344	(Z)
Reserve (Native)	...	20,731	(Z)
Imperial Service Troops (Native)	...	14,917	(Z)
Volunteers (European)	...	31,966	(Z)
Total	...	222,958	

3. *Military Forces in the Colonies, etc. (exclusive of Regular Troops of British or Indian Armies)*.—Composed of:—

Canada possesses an Active Militia numbering	...	40,730	(Z)
And Reserve estimated at	...	1,030,000	(Z)
Egypt	...	17,000	(Z)
South Africa	...	18,000	(Z)
Australia	...	40,000	(Z)
New Zealand	...	15,000	(Z)
Other Colonies and Dependencies (White Troops and Native Troops)	...	30,000	(Z)
Total	...	1,190,730	(Z)

NOTE.—Those marked (X) are available for general service in any part of the Empire, at any time.

(Y) are available for general service, in any part of the Empire, in time of war.

(Z) are only available for local service, or service in certain portions of the world.

Raids from the sea in time of war would necessarily take place suddenly, without warning, at places on our coasts which are more or less unprotected, and would have for their object the obtaining of

<sup>1</sup> Includes 2,519 British Officers.

as much loot and infliction of as much damage as possible, in the shortest possible space of time.

In most cases it might not be possible to concentrate mobilised troops in time to oppose the raiders, and consequently defensive operations would have to be carried out by the local population to a great extent.

It is obvious then that unless our civilian population receive military training in peace time, to enable them to use efficiently in self-defence, arms and ammunition, which could be supplied to them on the outbreak of war, occasions would arise during a war, when they would have to helplessly look on while an enemy did them and their property immense damage.

Of our Colonies and Dependencies over-sea, at least two are liable to serious invasion from their land frontiers.

In case of war with Russia, that country would infallibly invade India. At the present time it is true that we should not have much to fear from such an invasion, not because of any weakening which Russia may have received in her struggle with Japan, but because that struggle has shown beyond any possibility of doubt that the training of her armies is absolutely unsuited to modern warfare against any nation which has progressed ever so little with the times. It will take some years, probably several, before Russia can hope to reap much benefit from what she has learnt, because modern warfare requires intelligent initiative on the part of the individual private soldier, as well as efficiency in the officer who leads him, and the Russian private soldier comes from a class which at present is absolutely uneducated, has but little intelligence, and from whom years of repression have driven out all initiative. Moreover, his military training, up to the present, has merely intensified these failings.

Men who cannot shoot, whose sole idea of fighting is to try and get to close quarters with the bayonet, who have to be taken into and out of action in close formations, and who continuously require a superior's initiative and orders, are useless under modern conditions, no matter how large their numbers or how brave and devoted they may be individually, even if led by good officers and disposed by experienced generals.

But we cannot count on Russia remaining in her present state. She has now had up-to-date and convincing instruction and experience in the best and hardest of all schools, and presumably she will benefit by it.

If she does, we may, provided she is sensible enough to hold her hand for the next few years, have cause to look upon an invasion of India as an infinitely greater danger than it is at present.

If Russia decided to invade India, she could, at the outset, place, at the very least, 300,000 men in the field, and would, in addition, have an inexhaustible reserve from which to replace casualties.

To oppose them we should have available to take the field, at short notice, about 160,000 good troops, not more than 70,000 of which would be British. By denuding the United Kingdom of trained and efficient Regulars, Reserve, and Militia, we could, perhaps, in the course of six weeks or two months, bring the total of our Indian Field Army up to 300,000 men. But, under present conditions, we could not safely do more, even supposing that our continental neighbours did not take advantage of our hands being full.



It is obvious then that our capabilities would not be equal to meeting the demands of more than the first few months of what would assuredly be a fairly lengthy war, unless we could *usefully* augment our existing forces very largely from the civil population of the United Kingdom and our white colonies.

With regard to risings in the colonies, our recent experience with the Boers affords an excellent illustration of what our forces may be called upon to do under this heading, and again we are brought face to face with the fact that, failing conscription, the capability of an almost indefinite, and, at the same time, *profitable*, expansion of our recognised existing military forces, is absolutely necessary for the safety of the Empire.

To ensure the capability of a rapid, adequate, and, at the same time, *profitable* expansion of the existing military forces of the nation in time of war, the first essential is, that a certain amount of military training should be made compulsory by law for every able-bodied boy when at school.

If it were found possible afterwards to extend the principle, so as to compel every able-bodied man up to the age of, say, 35, to undergo a short course of instructional practice, in rifle shooting and the art of skirmishing, annually, it would, of course, be of incalculable benefit to the nation; but the compulsory instruction of all boys at all schools should be introduced at once.

Ordinary education is now compulsory, and, as a practical nation, we must recognise the necessity, failing conscription, of universal training in the elements of military requirements also, if we are to successfully meet the possibility of a grave national crisis.

If this plan were once adopted in the Mother country, the Colonies would soon follow suit, and in a very few years, in time of need, besides our ordinary reserves, we should have a practically inexhaustible source from which to draw men, who, though not at first perhaps equal to trained troops, could very soon be made wonderfully efficient.

Men who have learnt the rudiments of military requirements and how to handle and use a rifle, practically, as boys at school, could afterwards, in a very few weeks, be made into a valuable fighting force, the necessary supplementary training being carried out at convenient centres in their own districts, by selected retired officers and non-commissioned officers, or those who for some reason were at the time incapacitated for active service in the field.

We know from our experience at the time of the South African War, that in time of national peril, the patriotism of the Empire is equal to practically any call upon it, and we also know from the Boers, from some of our Volunteer and from the Irregular Corps recruited from our Colonies, that men who can handle a rifle, and who possess the rudiments of military knowledge, can, especially in their own country, do invaluable work, and are by no means to be despised if well handled, even by thoroughly-trained troops.

Of course, it would be necessary to lay out a fairly large sum on the construction of miniature and other rifle ranges throughout the country, and for the annual supply of practice ammunition, also to maintain large reserves of arms and ammunition ready for emergencies; but the cost and inconvenience of this and of universal training is one of the penalties of empire in an age when we are liable to rapid

and powerful hostile combinations. It is the only satisfactory alternative to conscription.

We know from painful experience, both in our own case and in that of other nations, that it is infinitely cheaper in the long run to be prepared for emergencies than to trust to luck and abnormal efforts and sacrifices, when they actually occur.

To find three striking illustrations of this fact we have only to turn to the case of France in the Franco-Prussian War; our own in South Africa; and Russia's in her war with Japan.

It is of no use to argue that our Navy immunes us from risk. It could not prevent our colossal expenditure, losses, and disasters in South Africa, and it would be equally powerless to save us in India (to mention only one of our vulnerable colonies), in case of an invasion of that country by Russia.

If we are to remain the richest and most powerful Empire in the world, we must accept the responsibilities which such a position entails, otherwise the time will infallibly come, and that in the not distant future, when we shall be stripped of our colonies, and sink into decay, as so many other once powerful nations have done before us.

“NUNQUAM NON PARATUS.”

## SIXTH SPECIAL MILITARY ESSAY, 1905.

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*Subject:—*

“THE BEST, LEAST IRKSOME, AND LEAST COSTLY METHOD OF SECURING THE MALE ABLE-BODIED YOUTH OF THIS COUNTRY FOR SERVICE IN THE REGULAR OR AUXILIARY FORCES AS EXISTING, AND FOR EXPANDING THOSE FORCES IN TIME OF WAR.”

*By Major J. F. CADELL, R.F.A., Secretary R.A. Institution.*

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*“Pro Rege et Lege.”*

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### INTRODUCTION.

THE problem which is presented to us in the set terms of the title of this essay is none other than our old friend the recruiting difficulty, and the conditions of the problem are such as to debar us at the outset from taking into consideration any high-flown and very possibly impracticable scheme of Army Reform. Schemes of Army Reform are always with us, but such displays of mental gymnastics may well be left to the budding politicians and amateur warriors who hope to earn cheap popularity, or further their own ends by clap-trap denunciation of the Army and all its ways.

The best and least costly method of securing *their* services for the benefit of their country—if indeed any of them should chance to be able-bodied male youths—would be conscription; but unfortunately this simple and efficient method of solving the recruiting problem with the aid of the Army reformer carrying a rifle in the ranks, is put out of court by the conditions of the problem set before us. For conscription, or compulsory service, must of necessity be more irksome to the individual, be he Army reformer or shoeblack, than any form of voluntary service.

Moreover, even if compulsory service were not entirely ruled out of court by the condition as to irksomeness, it must be obvious to any unprejudiced observer that the prospect of compulsory service being introduced, even in the modified form of the Militia ballot, has become, since the final stages of the war in South Africa, exceedingly remote. At one time in the early part of the war—probably in that black month of December, 1899, when troubles came thick upon us—it might have been possible to introduce some form of compulsory



service without the risk of popular upheaval. The advantages of adopting compulsory service at such a juncture were doubtless allowed their full weight, but the balance fell on the side of voluntary service. Volunteers came forward in great numbers; counties woke up to the fact that their regiment had a claim on them; and a few short months of voluntary effort, in which both high and low, rich and poor, took their share, put back the clock of conscription for a generation at least. Not till our people feel their lives and property endangered by an invader on their shores will they consent to compulsory service.

Moreover, our problem is still further conditioned by the two last words of the terms in which it is presented to us. For it is clear that service in our Regular and Auxiliary Forces *as existing* cannot include service in a Militia transformed in part into a Home Service Army, as proposed by Mr. Arnold-Forster, nor can it include service in a local Militia formed out of the dry bones of an extinct Volunteer Force, as has been so often proposed. Nor can any other large schemes of Army Reform be taken into account. It may be assumed, however, that proposals to modify the actual conditions of service in any part or the whole of the Regular and Auxiliary Forces will be quite legitimate, for if no modifications were necessary or permissible there would be no problem for us to cudgel our brains with.

### SUMMARY.

Our problem, then, may be re-stated as follows:—

“The best, least irksome and costly method of securing the male able-bodied youth of this country for service in the Regular and Auxiliary Forces as existing” must not be sought for in any scheme of compulsory service — the will-o’-the-wisp after which so many theorists are wont to struggle—nor yet in any of the transformation scenes which are so fondly entitled Army Reform, but in such modifications of the conditions of service, including pay, pension, promotion, and employment, as well as many other factors as will commend themselves to the minds of those best acquainted with our soldiers and the classes from which they are drawn.

## PART I.

### EXISTING CONDITIONS.

#### A. REGULAR ARMY.

Before discussing any proposed modifications in the conditions of service of our Regular Army, it may be as well to review briefly the existing conditions, and endeavour to ascertain their probable effect on recruiting.

#### *Length of Service.*

At the present time enlistments for the infantry of the Line are for nine years with the colours and three years in the reserve, but recruits for the Guards are still enlisted for three years with the colours and nine years in the reserve. In the cavalry and artillery the period of service is the same as before, but they are now closed to recruiting, while the Royal Engineer drivers, who for many years were enlisted

for three years with the colours, are now only required to serve for two years with the colours and for ten years in the reserve.

Immediately before the present condition of affairs as regards enlistment, all recruits for some two years after the war in South Africa were enlisted for three years with the colours and nine years in the reserve. Unfortunately, owing to the reduction of establishment which became necessary at the end of the war in South Africa, a number of districts were for some time closed to recruiting, and the fluctuations in the number of recruits called for from time to time during the period of these changes, prevent any deductions being made as to the effect on recruiting of these different periods of service with the colours. More recently, it is reported that the introduction of a longer period of service with the colours has had a detrimental effect on recruiting. A recent return showed that in the nine months, subsequent to 1st October, 1904, only 18,853 men had enlisted, as compared with 22,500 in the corresponding period of the previous year. It must, however, be remembered that "corresponding periods" are by no means trustworthy for purposes of comparison, for the recruiting market is directly dependable on the labour market, and the latter is subject to very great fluctuations.

While proposals as to new conditions of service belong more properly to a later section of this essay, it may not be out of place to remark here that in the recruiting market there is an irreducible minimum among those who present themselves for enlistment, who would be just as willing to serve for nine, or even twelve, years with the colours, as for two years or three years, provided always that they are going "soldiering," as they often phrase it, and are not intended to become mere stay-at-homes. These lads enlist either for the sake of change and adventure, or because they have had a row with some one. In seven cases out of ten there is a woman in the case—mother, mother-in-law, or sweetheart. Such, at least, is the writer's opinion, based on experience gained while acting in charge of a large recruiting office, and it is one with which most recruiting officers will probably agree.

In this connection it should be remembered that the three years' period of colour service was introduced, for the Line, concurrently with the seven years' colour service, for some time before the latter was abolished in favour of the former; but enlistments for three years' colour service were restricted to a small percentage of the whole. In the recruiting district with which the writer was concerned, enlistments for the shorter period were few and far between. Possibly, this was due to ignorance on the part of the recruits, but more probably it was due to indifference; as the recruiting sergeants would probably not press the shorter service on their notice, for fear of exceeding the limited percentage. However, it is easy to dogmatise, and probabilities are, in themselves, of little avail unless based on sure and certain principles. These principles must be sought for in the adaptation of the conditions of a soldier's life to the spirit of the time in which he lives.

### *Pay.*

Considerable efforts have been made of late years to secure a clear shilling a day to the private soldier. Absolutely necessary stoppages have been reduced to a minimum, and consolidated into a fixed amount, which may not be exceeded. An addition of pay, vary-

ing from twopence to sixpence a day, is granted after two years' service—the scale varying according to the soldier's musketry efficiency. Barrack damages have been reduced to the least possible amount, except in cases of wilful damage. These advantages are, however, to some extent, counterbalanced by the inevitable deductions which almost invariably accompany all increases of pay granted to the soldier.

Service pay is granted, but good conduct pay is abolished. Messing allowance was introduced some time ago with a flourish of trumpets, but deferred pay was withdrawn at the same time, and the resultant increase was but a trifling one. Moreover, neither service pay nor messing allowance benefit the recruit, for he must serve two years to gain the former, and must complete his musketry training, and attain the age of nineteen, before he can draw the latter allowance.

Notwithstanding these objections, it may be conceded that the present rate of pay is ample. "The soldier is well fed, well clothed, and has all the money he wants," is the usual verdict of the regimental officer. Of course, more recruits, and possibly of a somewhat better class, as in the case of the Royal Engineers, may be obtained by a sufficient increase of pay, but we are concerned at present with the consideration of the *least costly*, as well as the best method of obtaining recruits, and large increases are obviously out of question. Moreover, they are not necessary, for the actual value in the shape of pay, clothing, and housing which the soldier receives in return for his services compares very favourably with what he would receive in civil life. In fact, the prevailing disinclination to enlist cannot well be attributed to the scale of pay, but the reasons must be sought for in other directions.

### *Promotion.*

Potentially every recruit may be said to carry a marshal's *bâton* in his knapsack, but practically such is not the case. The number of general officers who have risen from the ranks is extremely limited, and even those who have attained field rank from the same source are far from numerous. It is seldom, however, that a man born in that state of life from which a majority of those in the ranks are sprung is endowed with the temperament, ability, and adaptability which will enable him to rise from the lower ranks of the people to the rank of an officer, without resembling, and doubtless feeling rather like, a fish out of water.

We see in every-day life that the elevation of a family from the lower to the higher grades of society is seldom accomplished in less than two generations. Hence it is the ambition of an energetic warrant officer to send his son to the University and make him a gentleman, though no one knows better than himself that it is too late for him to attain that ideal in *propria persona*. He may be, and often is, a thorough gentleman at heart, but the outward polish and *savoir faire*, which are so important in society, are beyond his reach.

The average prospects of promotion are good enough, but it does not take long for the recruit to find out that promotion is very "chancy." One man may go six years before he finds himself a "Lance-Jack," while his comrade gets his stripe in half the time or less; and the man who has had to wait the longest is quite possibly the better man and the more efficient non-commissioned officer of the two.



Nevertheless there can be very little doubt that the active, keen, and energetic man invariably gets his chance of promotion, and the better educated he is the sooner does that chance come. If he does not take that chance when it comes, it is his own fault, and he has only himself to thank. It may be pointed out here that the suggested abolition of Army Schools would do incalculable harm to the Army. The young and keen soldier who is well advised takes the chance of improving his education which is now open to him. It is wonderful to see how these young fellows, often with the special encouragement of their officers, will give up their games and work hard at school in order to get their "second" or "first" class certificate of education, and thereby qualify for promotion. Doubtless the children might in many cases be educated outside the barracks, but if the Army Schools were closed recruiting would suffer.

Taking things as they are, however, we may conclude that the prospects of promotion do not materially affect the recruiting problem, so far as the class which is at present principally recruited is concerned.

### *Foreign Service.*

It is not easy to gauge the effect of foreign service on recruiting, but there are one or two points which are worthy of consideration. In the first place, it may be accepted as true that the majority of British youths are animated by a spirit of adventure. Home ties may prevail, but for the most part they desire to go out into the world and see for themselves what other people and other places are like. It is common enough to talk of our insular prejudices, but in reality our upper and lower classes are permeated by a spirit which is the very opposite of insularity, and which finds expression in such phrases as "Greater Britain," "Pan-Britannia," and the like. Few families in either of these classes have not got some relation who is residing in or has returned from "foreign parts." Hence the young fellows of both classes are naturally anxious to find out for themselves how much truth there may be in the yarns they hear. Insularity flourishes in the middle class, whose interests are often narrowed to their own orbit, the dimensions of which are almost infinitesimal. In the lower classes, however, as in the upper class, a young fellow has little or no stake in the country, and is not on the look out to go into the business and eventually step into his father's shoes; hence the desire to go abroad and see the world is strong and one to be reckoned with.

This spirit has a considerable effect on the supply of recruits, but it is to some extent counteracted by the advice of parents. These are naturally loth to let their sons go so far away from them, but are still more influenced by the fact that so many old soldiers, especially those who have served abroad, are unable to get any employment when they leave the Army. The enervating effect of the climate of India and other tropical stations adds to the difficulty experienced by so many old soldiers in obtaining employment. Hence even though the sons are attracted to the Army by the glamour of the uniform and the tales of soldiers, their fathers and mothers see the latter too often drifting into a mere wastrel, and oppose their son's intention with all their parental influence. So even in the matter of foreign service the question of future employment is all-important.

*Future Employment.*

In the annual report of recruiting for the year ending 30th September, 1904, it is stated that out of 25,498 men who have been discharged or transferred to the Reserve with a good, very good, or exemplary character, no less than 21,815 ex-soldiers have been *provided* with employment, though on reference to the table accompanying the report it is seen that out of the latter number, 10,481 obtained employment for themselves, and only 1,554 obtained employment under the War Office, while the great majority obtained employment through the National Association or Soldiers' and Sailors' Help Society. It is evident from the figures that 3,683 men who had emerged from the ordeal of several years' military service with a satisfactory character were unable to obtain employment, and the remaining men, whose military characters could not be described as good when they were discharged or transferred to the Reserve, were apparently considered unworthy of any kind of employment; yet many of these men had only committed some fault of a comparatively venial nature from a civilian point of view. The figures, too, are somewhat misleading, for it is well known that ex-soldiers very frequently do not retain their employment for any great length of time owing to their being unfitted for the particular employment which their necessity has driven them to accept. In these days when machinery is so largely used, the mere unskilled labourer is of no account. Even young lads are soon promoted to the position of "hands," and the anæmic narrow-chested youngster who has picked up some knowledge of a particular machine or special duty is worth more to an employer than the strong and healthy ex-soldier; or it may be that the ex-soldier is too old and too proud to learn until compelled to do so by the claims of hunger.

The chief reason, however, why the ex-soldier so often becomes a mere rolling stone is that he is not made to work in the Army. He gets splendid exercise and develops into a magnificent animal with perhaps strong sporting instincts, but he gets very little hard physical work, and naturally is disinclined to put his shoulder to the wheel when he leaves the Army. Ex-sappers and ex-gunners seldom have much difficulty in obtaining employment, for they are used to work, and are generally handy men.

Very little, too, is done by Government in the direction of finding employment for ex-soldiers. The annual meeting of the National Association for the Employment of Reserve and Discharged Soldiers was held at the Royal United Service Institution, London, on 16th May last, under the presidency of H.R.H. the Duke of Connaught, and Lord Roberts, Lord George Hamilton, Sir Neville Lyttelton, and various other distinguished people were among those present. It was very noticeable that one chief complaint ran through all the speeches, namely, that no Government Department, except the War Office, employs any considerable number of discharged soldiers, although there were numerous places which they could fill as well as civilians, and some for which they were much better fitted. The Chairman of the London and South Western Railway Company showed that they at least had not neglected the ex-soldier, for in 1904 they were employing over 1,000 discharged soldiers.

The statement as to the non-employment of ex-soldiers in public offices may come as a surprise to many, for the question has been re-



peatedly ventilated of late years, and the general impression of the official attitude has been: "We have done all we can; but this is a question which must be dealt with by the large employers of labour." The inaccuracy of this impression was demonstrated by the Duke of Connaught at the annual meeting of the National Association referred to above when he stated that he thought it only right that the attention of all Government Departments should be directed to the matter, since during last year outside the War Office only nine ex-soldiers had been employed in the whole of the Government offices. The reasons for this state of things is not very obvious, but it would appear that there is a dislike to ex-military subordinates in some of the civil departments, which extends to officials of high position, who would not be expected to show such a feeling. It is claimed, for instance, that civilian messengers are far more intelligent than ex-soldiers; but the futility of this argument is plain, if we realise that there is now a considerable range of choice in employing ex-soldiers. Formerly old men or at least veterans prematurely aged with war and service in unhealthy climates were the only men procurable by those who wished to employ men who had passed through the ranks. In these days ex-soldiers are not old, and men who are still quite young and of every degree of education are only too eager to obtain honourable employment after leaving the Service. "We fear," says the *Pioneer*, in an article on the employment of ex-soldiers (14th July, 1905), "the difficulties that are found to arise outside the War Office, and on which H.R.H. the Duke of Connaught commented somewhat strongly, are due to the ingrained antipathy to soldiers and soldiering which has come down from the days since the bugbear of the nation was a 'Standing Army.' Men who ought to know better—men of the highest education—frequently cannot cure themselves of a sneaking belief that the Army is a society on a level of its own. They will deny very hotly that they have any such idea, but it is there under the skin none the less. It is that idea which makes men carry the excellent constitutional principle that Parliament must retain control of the Army, to the extreme of denying any administrative powers of the larger kind to any soldier. It is the same idea that makes men prefer any civilian to any soldier in subordinate positions. They seem to forget that in the ranks men learn to be clean and obedient, if nothing else, and the difference in these respects, and also in physique, between the trained soldier, on the one hand, and the small city shop boy and the country yokel on the other, is very great—greater than most people realise."

We conclude, then, that under existing conditions the prospects of the ex-soldier obtaining employment on leaving the colours are by no means good. At the close of the war in South Africa a number of ex-soldiers and reservists were thrown on the labour market, and many were reduced to beggary and want. But little effort was made by Government to remedy this state of things, and it has probably done more harm to recruiting than any measure of recent years.

### *The Marriage Question.*

Under existing conditions the number of men other than non-commissioned officers who are married "on the strength" is so small that the inducement to enlist afforded by free quarters for married men may be ignored altogether. The fact that promotion and the



chance of getting married go together, is a further inducement for a young man to strive for promotion; but it is obviously most improbable that any recruit would enlist in the hope of being able to marry at an early date. Moreover, it is equally unlikely that any would-be recruits are deterred from enlisting, under ordinary conditions, on account of the remote prospects of matrimony, though possibly a very few might on this account fight shy of enlisting for the long period of colour service now in vogue. The prospect of early marriage as an incentive to military service may at first sight seem a preposterous idea, but it must not be forgotten that most respectable men of the lower class look forward to an early marriage, and if they are to be attracted to the Service it will be necessary to make concessions to meet their views. This question, however, now passes for consideration to Part II. of this essay.

## B. AUXILIARY FORCES.

### *Militia.*

There are two classes who enlist in the Militia: Those who want to join the Regular Army and those who do not. The former class find it an easy and cheap method of getting the physical training necessary to develop their bodies to the requisite standard for enlistment in the Regular Army, and are therefore not in need of any special inducement to cause them to enlist in the Militia. So far as the requirements of this essay are concerned, they may therefore be ignored. The other class vary much in different districts, but when local circumstances admit of their doing so they will generally come forward in sufficient numbers. If, however, the place and time of assembly is not suited to meet their convenience, it is unlikely that they will sacrifice their private interests for the public welfare.

A very careful study of local conditions is, however, necessary to enable any one to form an opinion as to the reasons why recruits come forward in some districts and not in others, and it appears quite impossible to lay down any hard and fast rule in this matter.

### *Yeomanry and Volunteers.*

These two branches of the Auxiliary Forces may be considered together, as in neither case do the men receive any direct remuneration for their services. Why, then, do they enlist? The answer to this question is not always quite obvious, but on consideration it will be seen that the Volunteer looks upon his corps as a sort of club where he enjoys the society of his fellow-men, and in which all the members are bound together by a common tie—the consciousness of effort to improve themselves. The privilege of wearing uniform is an additional incentive, for it gives the wearer an advantage over his fellows in the eyes of the girls. Moreover, it is essential that the efforts of the Volunteer should be taken seriously, if recruits are to be attracted. The corps in which the hardest work is done is generally the most flourishing, provided that the demands made on the men do not interfere with the claims of civil life.

The recent regulations as to attendance at camp have had a disastrous effect in the case of some corps whose members were unable

to comply. It is possible that their officers, if appealed to, would have been able to suggest some other way of obtaining the requisite standard of efficiency, which would not have clashed with the personal interests of the men.

## PART II.

### PROPOSALS.

#### A. REGULAR ARMY.

*Length of Service.*—Throughout this essay it is assumed that our Home Defence Force will be provided by the Auxiliary Forces, and that under the head of Regular Army we have only to deal with considerations affecting an Army whose first and foremost duty is to be ready to take the field in any part of the world and provide for the defence of those of our over-sea possessions which do not provide sufficiently for themselves. Of course, that portion of our Regular Army which remains at home will be available for home defence so long as it is not wanted elsewhere, but practically we may consider our Regular Army as a Foreign Service Army.

Now, in fixing the most suitable length of service, there are three courses open to us:—

- a. We may argue that our best plan is to enlist recruits for a short period of colour service in the first instance, which may be as little as two years—the shortest time usually considered necessary to “make” a soldier. On completing this period, *if we think the man worth retaining*, we may offer him such inducements in the shape of pay, furlough, married establishment, and future employment, as will make it worth his while to re-engage for the whole or the greater part of the remainder of his twelve years of service. The term of twelve years appears to have some occult value, and at all events may be accepted for the sake of argument.
- b. On the other hand we may think it best to secure our men for long colour service, eight or nine years, or even more, from the first, and in order to attract them, we may decide to offer sufficient inducements from the time they enlist.
- c. We may select an intermediate period of service, say five or six years with the colours, and be content to offer sufficient inducements to obtain recruits, without attempting in any way to offer additional inducements to men to re-engage on the expiration of their colour service.

Now, in selecting any one of these courses, we are more than likely to have to make a leap in the dark. We know, it is true, that when the short colour service of three years was introduced, men would not re-engage for further service in any great numbers, but it is obvious that the inducements were insufficient. Again, we know that since the long colour service of nine years came into force, recruiting has fallen off, and again it is obvious that the inducements for a man to tie himself down for nine years were insufficient.

Too much importance, then, should not be given to the actual period of service, but we should rather endeavour to offer such inducements as will enable us to approach most closely to the ideal of "Free Trade in the Army." This phrase is generally used to denote employment on the same terms as civilian labour is obtained, and while it is obviously inapplicable in its loosest phase, to the needs of an army, for discipline would necessarily suffer, it may be conceded that an army in which every man is content to serve is likely to be the best and most reliable.

To turn, then, to our inducements:—

### *Marriage.*

It may be thought that the writer attaches too much importance to this question, but an army in which many of its soldiers are so weakened with disease, as to be unfit even to march, is so much the less efficient. If the question of cost is taken into account, as it must be in this essay, it must be remembered that it is cheaper to pay for quarters and rations for the wife of an efficient soldier, than to pay for the maintenance of a soldier who is only half a man. On these grounds a considerable increase to the married establishment is very desirable in the opinion of the writer. At home the expense would not be great, for married men might live out of barracks and draw, perhaps, half a ration extra. In time of war they would get separate allowance. Abroad, however, there are many difficulties to be met, but these must be faced. In the first place there should be a considerable period of qualifying service before a man could get on the married establishment—possibly five years or more, and a very good character would be necessary. Still, the inducement to keep straight in the hope of getting furlough and bringing a wife out would be considerable.

The institution of a Provident Fund, too, would be of invaluable assistance. If every man was compelled to contribute one shilling a month, an income of £90,000 would be obtained. Of course, this is only a tentative suggestion, and the figures would be modified to suit the actual requirements. Such a fund, however, would provide to some extent for widows whose husbands died abroad, find them passages home, and contribute to their support. The average soldier is very charitably disposed, and there should be no great difficulty in establishing such a fund.

### *Pay and Promotion.*

As we have already seen, the pay is sufficient to provide men with all they want. In the Royal Engineers and Departmental Corps, where the men are better paid, they either save up their money to help their relations, or to get married, or they waste it in drink, etc. The private soldier does not really require any higher pay. But what is enough for one is not enough for two or more, and if an increased married establishment be conceded, it might be better to allow a higher scale of pay at the end of the qualifying period of five years, or whenever it may be, in lieu of extra rations, etc. The married man should, however, be allowed to purchase rations at contract rates.



As regards promotion, there seems no special reason for altering the regulations, but some effort might be made to equalise the flow, so that men might not smart at what they consider is the injustice of having to serve under others far junior to them in service, but who have had the luck to pass them by. This, however, is a very difficult question, and the writer only ventures to draw attention to the very strong undercurrent of feeling which exists.

### *Foreign Service and Furlough.*

We have already seen that the prospect of going on foreign service attracts some recruits, while it deters others from joining. It is, of course, almost impossible to judge of the probable relative proportion of men attracted or repelled on this account, but there can be no doubt that the numbers attracted would be largely increased if furlough home were allowed in a more liberal manner than at present. After four or five years' service abroad, every man of good character should have a chance of furlough, if he is serving, or willing to serve, on a long engagement.

### *Future Employment.*

This is the crux of the whole recruiting question. If employment were guaranteed to ex-soldiers, there would probably be no difficulty about obtaining recruits. All the various panaceas for dealing with the recruiting difficulty are of comparatively little value compared with a scheme for guaranteeing future employment. Lord Roberts' scheme for universal training of lads would do an immense amount of good, but it would attract very few additional recruits, unless the conditions of service were "good enough," and the most important condition which would be considered good enough, would be a guarantee of subsequent employment.

The claims of the soldier and the sailor to Government employment have been urged over and over again. Some little has been done, but how little that is we have already seen. The one thing really essential is, to pass a law reserving employment in the subordinate offices of all the great public offices for men who have served the State in the Army or Navy. Such appointments as junior clerks, copyists, messengers, door-keepers, etc., could well be filled by ex-soldiers, and the reservation of such appointments for those who have served the State would attract numbers of young men of the middle and lower middle classes, who now prefer to take their chances as shop assistants, bank clerks, etc. Young men of this stamp, if of sufficiently good physique to join the Army, would have an admirable chance of getting early promotion, and, if certain advantages were given to non-commissioned officers, as shown below, there would be an additional inducement for them to enlist.

Again, ex-soldiers and sailors might have the first claim for employment in all the arsenals, Government factories, and dockyards, and all men employed on the construction and repair of barracks, manufacture of stores, etc., should be ex-soldiers.

It follows, of course, as a necessary corollary, that more opportunities should be afforded for men to keep up a knowledge of their trades or civil employment, during the time they are serving. Much might be done by extending the scope of work to be done by regiments.

The outlay on workshops might be considerable, but it should not be impossible to run these on a commercial basis, and obtain some return for the capital expended. Regiments, for example, might undertake all the more simple repairs required in their own barracks. This is done occasionally now, but it should be the universal rule. Clothing might be made as well as fitted; the operations of the shoemakers' and saddlers' shops could be easily extended, and in various other ways regiments might be far more self-supporting than they are at present.

Another opening for the employment of ex-soldiers is the Police Force. In his speech at the meeting referred to above, the Duke of Connaught strongly advocated that the ranks of the police should be largely filled with men whose term with the colours is ended. The Post Office does employ a considerable number of ex-soldiers; but this number might be enlarged.

Finally, the civilian must realise that if he wants to avoid compulsory service it is essential that he should make the soldier's path an easy one, and that the man who serves his country in the field has the best claim to Government employment at home.

### *Non-commissioned Officers.*

Some months ago General Bengough advocated tapping the middle or yeoman class in order to obtain a supply of non-commissioned officers. "My proposal, then, is," says he, "that this source of supply, offering as it does such excellent material for the purpose, should be made available by offering appointments as cadet non-commissioned officers up to a certain proportion, say fifty per cent., of our non-commissioned ranks, on the condition of the candidates producing a certificate of education equivalent to a first-class Army certificate, and a certificate of good conduct from some responsible person, such as a Justice of the Peace, or a clergyman of the parish. The cadets should be required to serve for one year in the ranks, at the end of which time, if found satisfactory, they should be at once promoted to the rank of lance-corporal.

"Under this system the following advantages would, it is submitted, be obtained. There would be a constant supply of good material for non-commissioned officers—an advantage that would be appreciated by commanding officers of all units who have experienced the common difficulty of finding in the ranks material for good and reliable non-commissioned officers. The superior standing and education of such cadet non-commissioned officers would leaven the whole body of non-commissioned officers in a regiment, would make discipline more effective, and at the same time ensure its being maintained with less friction, and would supply material capable of being trained by a proper system of education up to any desired standard of military efficiency.

"Against this plan it may perhaps be urged that it would militate against recruiting; but the number of recruits who are attracted by the prospects of promotion is, in our Army, very small, and by continuing the present system for a percentage of the non-commissioned rank, this objection, such as it is, would be still further minimised."—*Broad Arrow*, 22nd April, 1905.

This proposal was favourably commented upon at the time, and it was generally assumed that men of the classes referred to would be likely to come forward if they were certain of preferential treat-

ment and an early prospect of sharing the comfort of the sergeants' mess. These inducements would doubtless have a considerable effect; but the prospect of long service or of future employment is an essential condition.

It is very desirable, too, that our non-commissioned officers should be granted additional privileges. An "Ex-Non-Com.," writing in the August number of the *United Service Gazette*, states that "non-commissioned officers nowadays are not so distinct a class, and are not treated with the same respect as formerly." The reason for this appears to be that many additional privileges have been granted of recent years to the rank and file, but the status and privileges of the non-commissioned officer have not progressed in equal ratio. The majority of sergeants have no separate place to sleep in, and have to do their clerical work in the barrack-room. "Ex-Non-Com." says: "To render the Army sufficiently attractive to the better and more educated class of recruit, the higher non-commissioned ranks should possess outstanding and alluring advantages. To enumerate a few of these: Every non-commissioned officer of the rank of sergeant and upwards should be assured of accommodation adequate to his rank.

. . . . each regiment should possess a properly furnished and comfortable corporals' room, sergeants' messes, and billiard rooms; dress should be distinctive according to rank; all concessions of pay should be proportionate; and, most important, every full non-commissioned officer should be permitted to wear plain clothes off duty, and have every reasonable degree of freedom in leaving barracks."

Many of these privileges are already conceded in principle, adequate accommodation and comfortable messes being provided in new barracks; but the evil day—in the eyes of Government—when old barracks must be brought up to the standard of new ones is continually postponed, and recruiting must suffer in consequence.

### *Dress.*

The emphasis laid on dress by our "Ex-Non-Com." shows how important this matter is to the soldier, who lives in his uniform, whereas the officer merely dons his for purposes of parade, etc. Frequent changes of uniform are likely to have an injurious effect on recruiting, and wonderful caps of strange appearance which do not happen to be admired by the girls do more harm to recruiting than even a slight reduction of pay would do. A serviceable motor cap for active service and a smart forage cap for walking out are the chief requisites in the way of uniform; but it is also very important to give the soldier a decent pair of boots to walk out in. "Army" boots are all very well for marching, but they don't look well on the pavements, and if recruits are wanted they must be attracted by such things as appeal to them.

As mentioned by "Ex-Non-Com.," all full non-commissioned officers should be allowed to wear plain clothes when not on duty, and all soldiers should be allowed to wear them when on furlough or leave, and should be allowed to go away and come back in them, or the concession is of very little use.

### *Barracks.*

Much has been done already to make the soldiers' barracks less like a prison and more like a home; but much remains to be done.



New barracks are built in which all sorts of modern conveniences and comforts are provided, but most of the old ones remain unaltered. Hence it is natural enough that men quartered in old-fashioned barracks should notice and grumble at the difference between the accommodation provided for themselves and that enjoyed by their more fortunate comrades.

Dining-rooms are being gradually introduced and are found very beneficial, for they admit of the adoption of the "restaurant system," which is deservedly popular when properly managed. It is not, however, welcomed as an improvement when the whole arrangements are handed over to a firm of caterers. It is essential that troop and company officers should pay constant attention to the catering if the men are to be properly fed.

Lavatories are by no means up-to-date, and the sanitary arrangements leave much to be desired. Improvements are introduced from time to time, but the damages are always heavy, because it is nobody's business to look after them. Some old pensioner should be told off to look after such places, just as we have old railway porters in attendance in the lavatories at railway stations.

One of the principal causes of annoyance to well-educated men is the drunkenness so often winked at in the barrack-room. If a man does not make trouble he is generally left alone, in many regiments at least; but the language indulged in by men in a boozy state is not admired, to say the least, by better-behaved men. The introduction of cubicles might be welcomed on this account if no other, but the expense is considerable, and there are many objections. It would seem better to put down the drunkenness with a strong hand and encourage the steady men to insist on decency and quiet, which they can generally do if they like, as they are almost always in the majority. It is the fear of getting mixed up in a row which deters them from interfering.

It is, too, open to question if the canteen in its present shape should not be abolished. If men were allowed a certain amount of beer with their meals (steps being taken to ensure proper order) and perhaps a moderate allowance in the recreation-rooms, those who wanted more could always go outside to get it, and if they got into trouble would be dealt with by the police. Such a step would be very unpopular at first, but it would do far more to make the barrack-room comfortable than any other measure which can be proposed.

It should also be made impossible for a man to come into his barrack-room in a state of drunkenness. If he chooses to make a beast of himself the man should pay the requisite penalty, and not be allowed to make himself a nuisance to other people, who endeavour to screen him because it is the proper thing to do.

## B. AUXILIARY FORCES.

### *Militia.*

As stated above, so much depends on local conditions, in the case of the Militia, that it is almost impossible to formulate any definite proposal, except that the conditions of service should be sufficiently elastic as to provide for the more ordinary contingencies which are likely to occur. If, for instance, in an agricultural district the harvest is very late, the training should be postponed on that account. Again,

it should be quite possible for a man to put in his training with another battalion if he is not able to attend the training of his own battalion. Again, in some urban districts it may be desirable to copy the plan adopted by the Volunteers, and let the recruits at all events put in some of their preliminary training in the shape of evening drills. In a word, the training must be arranged to suit the man as far as possible.

The subject of Militia recruiting, however, cannot well be considered apart from the general question of the organisation and employment of the Militia. The Militia generally claims to be a Home Defence force, but over and over again, in recent years, Militia battalions have served abroad in time of war, and the recent obligation for general service imposed on them shows that this tendency has been recognised, and the force is being adapted to its proper use. The latter appears to be to form a second, if not a first, reserve for the Regular Army. This is only as it should be, if, as the writer thinks should be done, the duty of Home Defence were entrusted to the Yeomanry and Volunteers. The latter should be properly organised in divisions and brigades, to form a separate army for Home Defence, but the Militia battalions should look to supporting their Regular battalions, and would require no separate organisation. Their proper place of training is with their Regular battalion, and if unable to join the latter, the Regular unit should join them during their training. This, however, is somewhat by the way, but it is necessary to obtain clear insight into the duties of the Militia when considering the subject of recruiting.

A further suggestion may, perhaps, be made, namely, that all enlistments should be for a short colour service with the Regular Army, followed by a turn of service in the Militia, and winding up with a service in the Second Reserve. The Militia would then become the First Reserve. If this were done, it would be possible to allow considerable freedom of transfer from Regular to Militia, and *vice versa*, after the first short period of colour service. Employment would be guaranteed to Second Reservists, but not to Militia or First Reservists, who would have the choice of re-engaging for service with the colours in the Regular battalions, or taking their chance in civil life. There seems, however, no reason to debar them from coming back to the colours at any time during their First Reserve (Militia) service, provided that they "signed on" for a considerable period, say five years.

The above is only a sketch and not an essential factor in the scheme of this essay; but the main principle, that the Militia must be either the First or Second Reserve of the Line, must be insisted on.

Such a measure would, it is thought, have a good effect on Militia recruiting, and the great influx of trained men into the ranks of the Militia would simplify the training of the force, and give it larger opportunities of usefulness.

It might be argued that all recruits should be enlisted for the Regular Army alone, and the Militia be composed entirely of reservists; but this would exclude a considerable number of lads who would be unwilling to give up their civil avocations, but yet may become useful soldiers.

*Yeomanry and Volunteers.*

These may well claim to be the mainstay of our forces for Home Defence, and it would appear that the time has come to organise and train them for this object. If the work of Home Defence were definitely entrusted to the Volunteer Forces, they would rise to the occasion and prove themselves fit for the task. In such circumstances the difficulty of obtaining recruits would disappear, provided that they were not asked to do anything which the claims of civil life would prevent them from undertaking.

If local conditions were more studied, and the times of training suited to the local demands of civil life, there would be little difficulty in obtaining recruits. It is only necessary to make the regulations more elastic. Too much importance is attached to the so-called necessity of training large bodies of men together. An attempt is made to teach them to run before they can walk, and the result is but little improvement. Far more progress would be made if all arrangements for training were left to the Volunteer Brigade Staff—the brigadier being responsible for, and certifying to, the efficiency of the men trained. In many cases it would be better to have a week's brigade training twice a year, either in the districts to which the corps belong, or at one of the nearest seaside places, than the annual effort to reach Aldershot or Salisbury Plain. Divisional training once in three or four years would suffice to give the brigadiers and commanding officers the requisite experience.

But, whatever plan is adopted, it is all-important to give the Volunteers certain defined duties to perform, and make them and the public realise the importance of these duties. A smart and active Volunteer officer, who knows his work, can always attract recruits to his company, and in order to keep up the supply, it is only necessary to wipe out the old reproach that Volunteers are merely playing at soldiers.

## CONCLUSION.

The best, least irksome, and least costly method of securing recruits is, to offer such inducements, other than increase of pay, as will overcome their natural reluctance to submit to the yoke of discipline, and to bind themselves for so many years' military service.

These inducements may be summed up as follows:—

## A. REGULAR ARMY.

1. Military service should be made so popular that the length of service can be adjusted to suit the requirements of the Army, without disturbing the recruiting market.
2. The ideal length of service is 2 or 3 years with the colours, followed by 8 or 7 years in the First Reserve, and 5 years in the Second Reserve.
3. The most important inducement to recruiting is the prospect of future employment. This must be guaranteed by a law reserving all subordinate posts in public offices for those who have served their country.



4. A large increase to the married establishment is desirable on the grounds of efficiency, as well as to attract recruits. This is the most costly of these proposals, but the cost would be compensated for by increased efficiency.
5. Furlough should be allowed more freely to well-conducted men who have served 4 or 5 years abroad.
6. Non-commissioned officers should be given several additional privileges, notably, separate quarters and more freedom.
7. The men's comfort in barracks should be studied still more than at present.
8. Dress should be suited for the purpose for which it is required. The walking-out dress should be smart and attractive, without being uncomfortable, while the service dress should be practical, without being repulsive. All non-commissioned officers should be allowed to wear plain clothes when not on duty, and all soldiers should be allowed to wear plain clothes when on leave or furlough.

The tunic of the soldier should correspond to the black coat of the artisan, and he should be allowed to wear whichever garb he preferred when out of barracks, so long as he was clean and tidy.

#### B. AUXILIARY FORCES.

The conditions of service must be made to suit the convenience of all those who are able to devote only a portion of their time to soldiering. If this were done, and the control of the different branches entrusted to officers of these branches, there should be no difficulty about getting recruits.

The Volunteers and Yeomanry should be made responsible for home defence, and the Militia should be recognised as the First Reserve of the Line. It might even be desirable to enlist all recruits for two or three years' colour service in the Line, followed by seven or eight years' service in the Militia, unless they re-engage for service abroad with the Line.

No attempt has been made in the above pages to lay down any accurate and definite rules, rates of pay, length of service, etc., as these must depend on circumstances, and be amended from time to time; but it is hoped that one main principle has been established, namely, to give the utmost consideration to the views and wishes of the class from which we get our recruits, and to endeavour to offer such inducements to recruiting as will appeal most strongly to them.











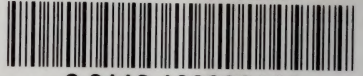








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